Issue 65 ● October 1993 ● £3.99 Overseas price £4.25 ● Hfl 1895

AMIGA COMPUTING

SUPERB!

Complete 3D modelling & animation package

PREVIOUSLY ON SALE AT £50

AMIGA COMPUTING

CALIGARI

PREVIOUSLY ON SALE AT £50

Full working version of this exciting 3D modeller...

Does not work with WB2/3



...and save £100 on caligari 24

10 out of 10

Practical maths tests for ages 8 to 16 in line with National Curriculum

SAVE DISABLED

Valued at £26

PLUS AMOS support files

AMIGA COMPUTING

F-117A

Full mission demo

STEALTH FIGHTER

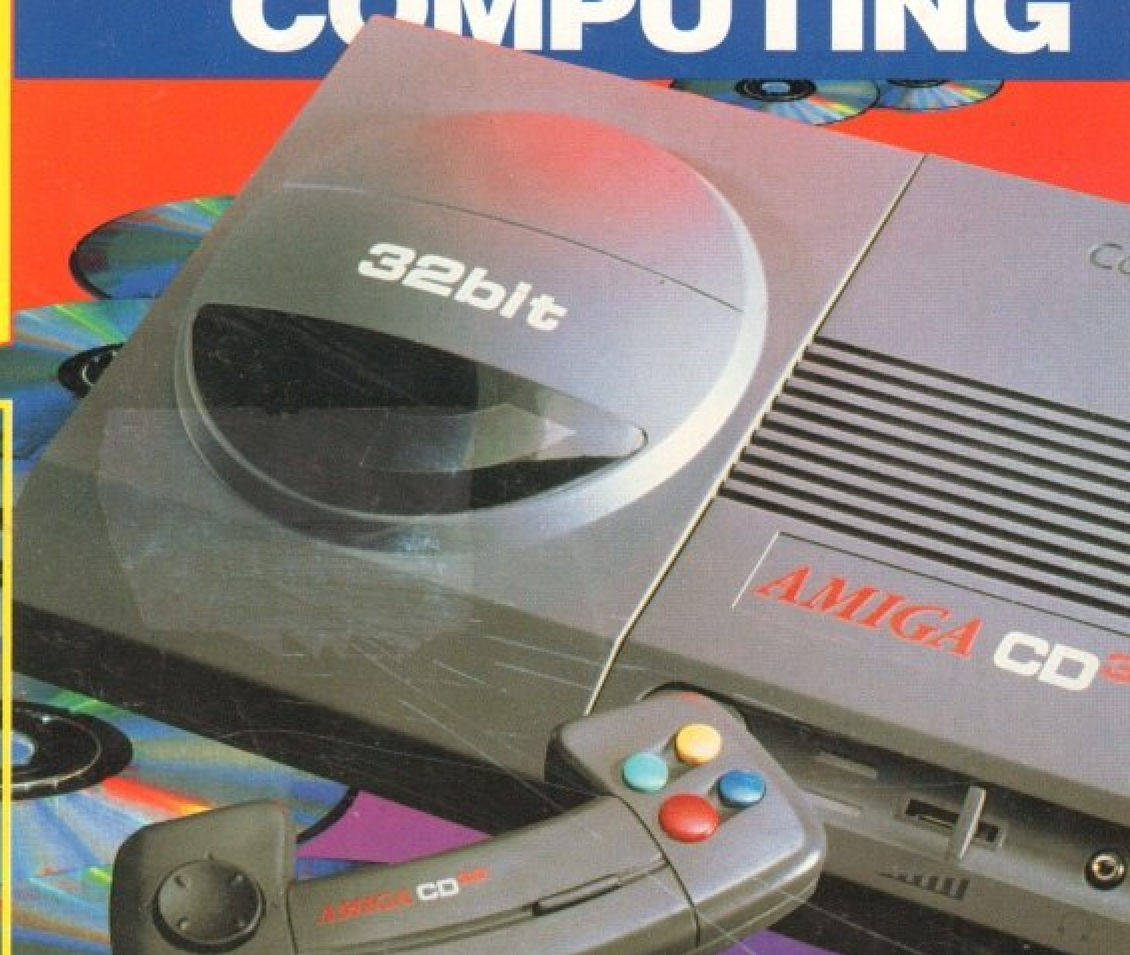
From MicroProse

ABACKUP Handy hard drive utility

£3,000 Prize survey

DISKSALV Repair damaged hard and floppy disks and restore lost files (not WB1.3)

TOOL MANAGER Brilliant utility for Workbench 2&3



CD32

The machine, its software and the future...

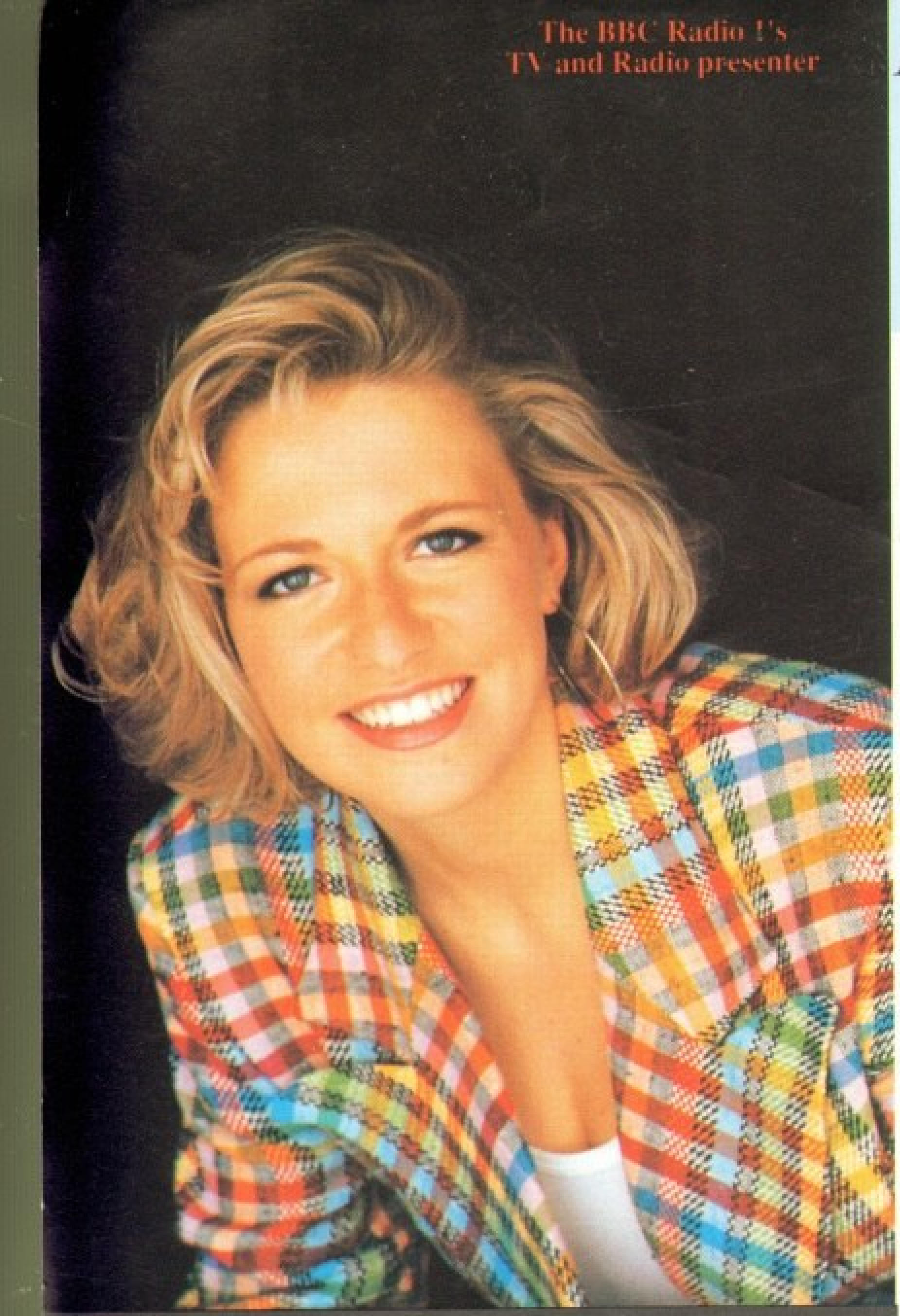
9 770959 963077 10

PLUS: Hard drive round-up

AMOS Pro Compiler

Technosound ● Quarterback Deluxe

FREE tickets to All Formats Computer Fair



INDI DIRECT MAIL
Proudly Presents
THE
JAKKI BRAMBLES COLUMN

Hi ,
Two guesses as to what I'm going to review this month. You'll probably get it in one.... **The new Amiga CD32**
July 16th at the Science Museum in London, Commodore Launched '**CD32** to a very excited audience; and what a launch it was! We all expected to see a very special Amiga but no one (except Commodore) could imagine just how special!
In fact, only in June of this year did Sega themselves quote "we could bring a 32 - bit console out tomorrow...but the problem is the price and I don't think that problem will be solved this year or next year" Well Commodore have definately knocked that theory on the head with a retail price of **£299.99.**
I won't go on about all the other breakthroughs this console has made as I know the magazines are full of reviews giving all that teckie stuff etc. but I really must say something about the staggering amount of software that's due for release. Somewhere between 50 and 100 titles will be available by Christmas and more importantly all the great software houses are now developing products, including Psygnosis, Ocean, Gremlin and many many more.
As if all this wasn't enough there's still more to come from this incredible box of tricks...**Full Motion Video**. By the inclusion of a neat little gadget called an **Mpeg Module** you'll soon be able to watch films on CD and that really does mean some really special products are just around the corner. I can't wait to see and hear all my favourite bands on CD and the Amiga CD is just waiting to play them.
Anyway I'm sure you're just as convinced as I am that this product from Commodore really is just a bit special and certainly changes the future for things to come the likes we have never seen before. Why don't you drop me a line and tell me what you think, in fact how about some suggestions as to what you'd like to do with the new Amiga and I'll get Indi to give one away for the best letter.
See you next month.
Cheers

Jakki Brambles

AMIGA CD32



The exterior may be sleek but lurking inside the Amiga CD32 is a technological wonder. At it's heart is the mightily powerful 68EC020 processor from Motorola. This contains the 32 - bit technology which has made the Amiga 1200 a runaway success throughout Europe.
Alongside it is Commodore's unique custom AGA (Advanced Graphics Architecture) chipset - comprising three chips nicknamed Paula, Lisa and Alice.
Together they make Amiga CD32 and awesome powerhouse of high speed graphics and stunning sound capabilities.
In fact, the machine can display 256,000 colours on screen (compared to Sega's Mega CD which can only display 64) and has a total colour palette of 16.8 million colours. Amiga CD32 also comes with a chunky 2 Meg of RAM (that's15 times more than Mega CD) and a double speed drive.

SPECIFICATIONS:

* 14 MHZ 68EC020 processor
* 2 Megs 32 - bit chip RAM
* 2 Joystick ports/controller ports
* S- video jack
* Composite video jack
* RF output Jack
* Stereo audio jacks
* Keyboard connector/ auxiliary connector
* Full expansion bus
* Headphone jack
* Headphone volume control
* External brick power supply
* Internal MPEG FMV expansion capability
* Multiple session disc capability

INDI MULTI MEDIA CLUB

A true 'One Stop Shop' for all members. On offer each month with an ever increasing product range , members can obtain software to cover every application including **Morphing, Rendering, Raytracing, Video** and a PD Library second to none. The Club also offers a very comprehensive range of videos including the **Cult Manga Titles, Music, Features and Special Interest**. There really is something to suit every ones taste. Membership costs only £10 and each member receives a quality gift on joining, even though there is absolutely no commitment to buy at any time. If you would like to be a part of this exciting club then call **Indi on 0543 419 999**

INDI DIRECT MAIL

DMA ENSURES HIGHEST PRACTICE

As with most industries, the UK's personal computer industry has its share of cowboys operating in the mail order sector and at the receiving end a line up of despairing consumers who have suffered at their hands.
A personal computer is a sophisticated and expensive item and provided the purchaser is dealing with a reputable and accredited supplier, buying a computer by mail order can be a perfectly safe and cost effective exercise. The Direct Marketing Association (DMA) was set up in April 92 to set and maintain high standards for the sake of the industry and society at large, and to ensure that we can continue to regulate our own activities on the basis of
proper professional responsibility.
Membership of the DMA is not
conferred lightly - it is a privilege which entails responsibilities, to the consumer as well as to the industry. The foundation for this must be good practice. DMA members are required to abide by the highest standards as laid down in the DMA's code, enforced on members by The Authority of the DMA a separate body with an independent Chairman, and which is an assurance of vigorous self - regulation and professional responsibility.
DMA members also agree, as a condition of membership, to abide by The British Code of Advertising Practice and The British Code of Sales Promotion Practice: to apply the Mailing Preference Service file when appropriate: and to subscribe to the Advertising Standards Board of Finance (ASBOF) and to the Mailing Standards Levy as applicable.
The DMA symbol can only be used by members. Printed on stationary, advertising and other promotional material it demonstrates that these companies conform to the Association's high standards and are subject to the DMA's Code of Practice, thus enhancing the companies credibility with customers, suppliers and of greatest importance, the
consumer.
Since the symbol was introduced last June, it has become synonymous with quality , professionalism and and responsibility. While it cannot be shown in any way which will become a sign of best industry practice and of strict adherence to DMA codes of conduct. The symbol represents authority for members and reassurance for consumers. It has been a high valued mark of confidence signifying to the consumer the truly professional edge of the industry.

Alison Slan
(Director of Public Relations,DMA)



DIRECT MARKETING ASSOCIATION

DEFERRED CREDIT ON ALL ORDERS OVER £200. *PAY 10% NOW AND NOTHING MORE FOR 3 MONTHS

CUSTOMER CHARTER

INDI Direct Mail is original and very exciting. Before you buy mail order you must first be confident that you will receive the product you've ordered and that the supplier still be there in the future, should you need them.

A mail order purchase from INDI is a safe and secure decision, and here's why.

INDI is a wholly owned subsidiary of a public company now in it's tenth year of trading and specialising in the supply of computer products.

With a turnover approaching £30 million per annum, we have the resources and the purchasing power to offer you the best deals, deliver them next day nationwide and always be around when you need us.

The INDI sales team have been trained to

SALES AND SUPPORT

take your order with the utmost care and efficiency. All stock offered for sale is held in stock, centrally at our group ware house complex and is available for next day delivery, direct to your home or business. If at any time we are out of stock your money will not be banked until the product is available (a point worth checking should you be tempted to purchase elsewhere)

General information regarding product is available from our sales team, however technical support is always on hand should you need assistance.

All prices quoted are inclusive of VAT. INDI are now able to offer competitive credit

INDI TELESALES

TEL 0543 419999 FAX 0543 418079

CREDIT FACILITIES

facilities on all orders over £200. All credit facilities are subject to status and applicants must be over the age of 18.

If you would like a quote simply call our our sales line where acceptance can normally be notified within the hour. We are also able to offer Credit Insurance to cover repayments in the event of sickness or unemployment.

AMOUNT* OF CREDIT	12 MONTHS		24 MONTHS		36 MONTHS	
	MONTHLY PYMNTS	TOTAL PAYABLE	MONTHLY PYMNTS	TOTAL PAYABLE	MONTHLY PAYABLE	TOTAL PYMNTS
200	£22.00	£264.00	£12.00	£298.32	£9.31	£335.63
500	£54.99	£659.88	£31.06	£745.44	£23.27	£837.72
1000	£109.98	£1319.76	£62.13	£1491.12	£46.54	£1675.44

APR 29.9% WRITTEN QUOTATIONS AVAILABLE ON REQUEST
*After deposit paid

AFTER SALES AND SPECIALIST SERVICE

All products are guaranteed for 12 months. Some products carry a 12 months at home service and repair guarantee (where indicated). In the unlikely event that any product purchased from INDI arrives at your home faulty, we will collect from your home and replace the product completely free of charge.

As part of our policy of continual product development and refinement, we reserve the right to change specifications of products advertised. Please confirm current specifications at the time of ordering.

Prices are valid for month of publication only.

AMIGA A1200

ALL NEW 32 - BIT AMIGA



LOOK A1200 PRICE CRASH

COMIC RELIEF PACK

The event may be over but the fund raising still goes on. If you're looking for the latest in Amiga technology then this is the starter pack for you. Based around the outstanding A1200, this pack also gives you sleepwalker, a most addictive platform game from ocean software. You'll be pleased to know that every one of these packs purchased raises another £10 for Comic Relief.

A1200 STANDARD FEATURES.

* 68020 Processor * PCMCIA Slot. * 2MB Chip RAM. * 3.5" Internal Drive * AA Chipset. * Built in TV modulator. * Alpha numeric keypad. * 12 Months at home maintenance.

FREE Sleepwalker and £10 donation to Comic Relief

INDI PRICE

£289.99 or from **£11.04*** per month

*(Credit price based on 36 monthly payments APR 29.8%. Total repayment £397.92 and 90 day deferred payments.

A1200 80 MEG HD INDI PRICE £499.99

A1200 120 MEG HD INDI PRICE £529.99

INDI A1200 ADDED VALUE PACKS

Pack Contains:
* International Games Challenge. * The Cool Croc. * Paradroid 90. * Zapsac Rucksack and Zappo T - shirt.

INDI PRICE £19.99

OFFICIAL A1200 HD SYSTEMS

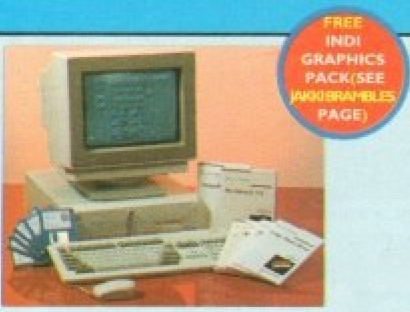
The Amiga 1200 supplied by Indi Direct Mail now includes the official (legal) Commodore installation disk and hard drive utility manual. Indi are proud to be an official supplier of Amiga 1200 Hard Drive systems, that include the official software, documentation and on - site warranty.

STOP PRESS

ALL A1200 PRICES CRASHED INCLUDING ALL HARD DRIVE SYSTEMS

80 Mb Hard Disk upgrades available on any A1200. Upgrade does not invalidate your Wang warranty on A1200 and Hard Disks. Phone for a quote.

AMIGA A4000



FREE INDI GRAPHICS PACK(SEE JAKKI BRAMBLES PAGE)

It's here - The new Amiga 4000/030

The NEW Amiga 4000/030 features a EC68030 processor running at an incredible 25Mhz, and upgradable at a later date to a faster processor. The 4000/030 has a powerful 2 Mb of 32 - bit RAM (1 Mb chip & 1 Mb fast) expandable to 18 Mb using industry standard 32 - bit Simms module. In line with the Amiga Flagship 4000/040 the 4000/030 features the new AGA graphics chipset, giving you a massive pallet of 16.8 million colours. A range of hard drive options are available from 80 - 240 Mb and includes a SCSI option.

4000/030 80 Mb HD INDI PRICE £929.99

Other Drive Options

4000/030 120 Mb HD INDI PRICE £999.99

4000/030 240 Mb HD (exclusive to INDI)
Phone for price.

4000/030 120 Mb SCSI HD (exclusive to INDI)
Phone for price

A full range of approved upgrades are available for the 4000/030, including additional memory modules, hard drives, PC bridge boards, FPU's (68881 &68882)and the 24 - bit Opal Vision graphics and video system

NEW MONITOR RANGE

THE NEW DUAL SYNC1942 Monitors have been specially designed for the New Amiga 1200 and 4000 computers. Both monitors feature built - in stereo speakers.

INDI PRICE

1940 Monitor £279.99

14 inch screen size - 0.39 mm dot matrix

INDI PRICE

1942 Monitor £379.99

14 inch screen size - 0.28 mm dot matrix



ZAPSAC AND T - SHIRT

INDI PRICE £17.99

(Free with A1200 Comic Relief Pack, INDI A600 Accessory Pack)



Parnet Adaptor for CDTV

Connect a CDTV player to any Amiga, and access the world of CD - ROM software.The Parnet interface and software will allow the Amiga CDTV to be used as a CD - ROM drive withe any Amiga and will give any Amiga owner access to the vast range of CDTV software currently available.

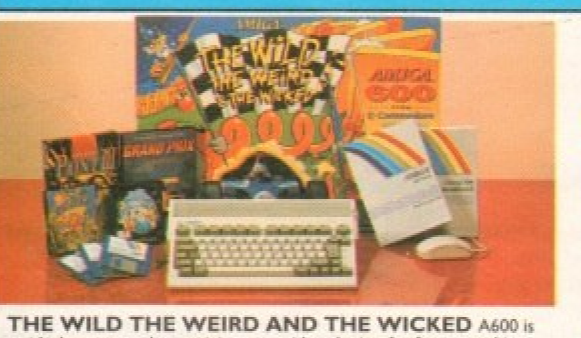
The CDTV player offers excellent value for money when compared with a standard CD - ROM drive and interface. Most CD - ROM drives will set you back over £400 while CDTV will cost you less than £300 and will play audio CD's in addition to CD - ROM / CDTV disks your Amiga, interface cable and PD disk with driver software for your CDTV player. **(The Parnet adapter can be used to link any Amigas together)**

INDI PRICE £39.99

A4000/030 + CDTV + 1942 MONITOR + PARNET. INDI PRICE £1599.99

CDTV + PARNET.
INDI PRICE £329.99

AMIGA A600 PRICE CRASH



THE WILD THE WEIRD AND THE WICKED A600 is an ideal starter pack containing a considered mix of software, making the most of the Amigas capabilities.

PACK CONTAINS:
* A600 Single Drive
* Built in TV Modulator
* 1 Mb Memory
* Pushover: Grandprix
* Silly Putty: Deluxe Paint III
* Mouse and Manuals

NEW LOW LOW PRICES

~~£289.99~~

£215.99

A600 - SD A single drive Amiga for those of you requiring a basic A600 at a very competitive price.
PACK INCLUDES: A600 single drive, built in TV modulator, 1 Mb memory. 12 Months at home service

INDI VALUE ADDED FREE * Kick Off 2 * Pipemania * Space Ace * Populous * Microswitched Joystick

INDI PRICE ~~£239.99~~ **£189.99**

A600 EPIC PACK (40 Mb HD) PACK INCLUDES:
A600 Hard Disks (40Mb) * **1 Mb Memory** * **Epic** * **Rome** * Myth * Trivial Pursuit * Amiga Text * Deluxe Paint III * 12 Months at home service.
PLUS INDI ACCESSORIES PACK

INDI PRICE ~~£395.99~~ **£379.99**

INDI A600 ACCESSORY PACK
* Microswitched Joystick * Lockable Disk Box * Disk Wallet * 10 Blank Disks * Kick Off 2 * Pipemania * Space Ace * Populous * Zapsac A600 Carry Case * Zappo T - Shirt.

INDI PRICE £26.99

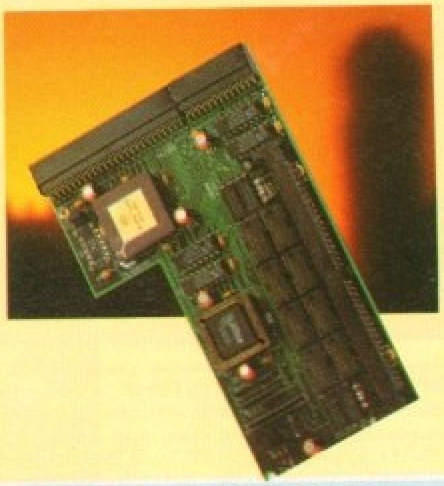
WANT THE BEST IN PROFESSIONAL AMIGA. WHY NOT TAKE ADVANTAGE OF THE CREDIT DEALS AVAILABLE (SUBJECT TO STATUS). CREDIT AVAILABLE ON 6,12, 18, 24, 36 MONTHS.
WHY NOT RING NOW FOR A QUOTE. SAME DAY RESPONSE.

AMIGA RECOMMENDED PERIPHERALS & ACCESSORIES

NEW FROM MICROBOTICS!!!. M1230XA ACCELERATOR LAUNCH!!

Microbotics beats the competition in price/ performance/ features and configurations. INDI is very pleased to announce the availability of the new 68030 accelerator product for the A1200: the microbotics M1230 XA (call it the "XA" for short). 50 Mhz as standard! Huge 128 MB memory design is standard (the biggest memory space in any A1200 peripheral) just look at these specifications and prices!

M1230 XA W/40 MHZ EC 030 0MB **INDI PRICE £177.17**
M1230 XA W/40 MHZ EC 030 4MB **INDI PRICE £285.17**
M1230 XA W/40 MHZ EC 030 8MB **INDI PRICE £639.99**
M1230 XA W/50 MHZ MMU 030 0MB **INDI PRICE £399.99**
M1230 XA W/50 MHZ MMU 030 4MB **INDI PRICE £499.99**
M1230 XA W/50 MHZ MMU 030 8MB **INDI PRICE £711.99**

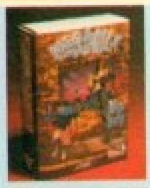


MBX1200.

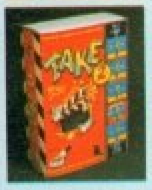
The original and best floating point unit and memory upgrade for the Amiga A1200. Available with 0,4 or 8 MB of 32 bit Fast RAM and a choice of floating point units. Now complete with real time clock (RTC)

1MBX1200Z 6881 14 MHZ 0MB **INDI PRICE £ 91.32**
MBX1200Z 6881 14 MHZ 4MB **INDI PRICE £199.00**
MBX1200Z 6881 14 MHZ 8MB **INDI PRICE £519.99**
MBX1200Z 6882 25 MHZ 0MB **INDI PRICE £132.61**
MBX1200Z 6882 25 MHZ 4MB **INDI PRICE £240 61**
MBX1200Z 6882 25 MHZ 8MB **INDI PRICE £579.99**
MBX1200Z 6882 50 MHZ 0 MB **INDI PRICE £200.14**
MBX1200Z 6882 50 MHZ 4MB **INDI PRICE £308.14**
MBX1200Z 6882 50 MHZ 8MB **INDI PRICE £669.99**
68882 FPU UPGRADE **INDI PRICE £669.99**

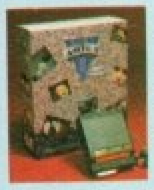
AUDIO VISUAL



MEGAMIX. Low cost, hi spec digital effects cartridge plugs into the printer port of the Amiga. Allows stereo sampling from almost any musical source.
INDI PRICE £29.99



TAKE 2. Animation package is a must foe computer artists and enthusiasts of all ages. As used in Rolf Harris Cartoon Club.
INDI PRICE £37.99



VIDI AMIGA 12. The ultimate low cost colour digitiser for the Amiga. "The best value full colour digitiser on the market" AMIGA FORMAT.
INDI PRICE £75.99

ROMBO VIDI AMIGA 24(RT). For the more serious user, this 24 - bit version will again capture from from any video source with true photo realistic images! A staggering 16.7 million colours can be utilised with incredible results. Full AGA chipset support.
INDI PRICE £239.99



ROCTEC ROCGEN
Entry level Genlock for all Amigas. Record stunning Amiga Graphics into standard video or overlay text and graphics onto a video signal.
INDI PRICE £69.99

ROCTEC ROCGEN PLUS. As above but with extra features such as tinting and signal inversion. Allows for real time editing of graphics. Compatible with all Amigas.
INDI PRICE £133.99

ROCTEC ROCKEY. The ultimate accessory for Amiga / Video fans. Separate RGB controls to chroma key on any colour.
INDI PRICE£249.99

ROMBO VIDI AMIGA 12 (RT). Based on the best selling Vidi Amiga 12. This all new version offers real time colour capture from any video source. Full AGA chipset support as standard for all A1200 / 4000 users.
INDI PRICE £139.99

MEMORY UPGRADES AND ACCESSORIES

M501 The original 0.5MB battery backed upgrade for the A500.
INDI PRICE £29.99

M502 The original H1 MB battery backed upgrade for the A500.
INDI PRICE £49.99

8 Up memory board. Designed for the A1500/ A2000. Memory upgradeable to 2/ 4 or 8MB
INDI PRICE £69.99

Hard frame suitable for A1500/ A2000. Allows for the interface of a SCSI hard drive.
INDI PRICE £110.99

DISK DRIVES



ZAPPO EXTERNAL FLOPPY
You've seen all the reviews on this popular and affordable second Amiga drive. Compatible with all Amigas.
INDI PRICE £59.99

Quality: 9 out of10. Exceptional value for money. AMIGA COMPUTING JAN 93

AMIGA PERIPHERALS



2MB SMARTCARD. The original and still the only fully PCMCIA compatible memory card for A600/ A1200. Comes with lifetime guarantee. Beware of cheap imitations.
INDI PRICE £129.99
4MB SMARTCARD. Same as above but maximum 4MB.
INDI PRICE £199.99

ZAPPO 601
Trapdoor upgrade for the A600, 1Mb with RTC **INDI PRICE £49.99**
ZAPPO 601 INC As above only 512K, no clock **INDI PRICE £29.99**



1084ST MONITOR.



Commodores original and best selling colour stereo monitor.
Now includes swivel and tilt stand for total ease of use.
INDI PRICE £189.99
(£179.99 if purchased with A600 / A1200 / A1500)

OPAL VISION VIDEO PROCESSOR

Plug this card into the Opalvision mainboard and add a wealth of additional features and functionality. Included is the long awaited "Roaster Chip" for an unlimited number of digital video effects.

Features include:-
* 24 - bit real - time frame grabbing from composite or S - Video
* Professional quality genlocking
* High quality digital video effects
* "Roaster Chip" for effects of unequalled quality
* 24 - bit Picture - in Picture and Video Sandwich Keying

INDI PRICE £899.99

THE OPAL VISION VIDEO SUITE

A power packed video and audio mixing, switching and transcoding device. This 19 inch rack mount unit is so advanced that it actually has its own internal computer. With a total of 9 video and 10 audio inputs available the flexibility of this professional tool is incredible

Features include:-
* 4 X compoite inputs
* 4 x 5 video inputs (SVHS, Hi - 8 of Y/C)
* 2 x RGB inputs
* 1 x Master sync input
* 1 x Composite main output
* 1 x S - Video main output1 x RGB mains output
* 1 x composite preview
* 10 x mono audio inputs (or 5 stereo pairs)
* Stereo output with 5 band equalizer

INDI PRICE £899.99

OPAL VISION SCAN - RATE CONVERTER

Add this card to the Opalvision Main board and acieve 31 KHz non interlaced output of Amiga graphics. On board memory also servesas a separate frame - store for dual frame bufferapplications
Features include:-
Converts interlaced PAL and NTSC to 31KHz non interlaced flicker - free display
No external power supply needed
Works with any multi - sync / multi scan monitor
Incudes full, infinate window Time base correction
Operates in RGB for superior quality

INDI PRICE £899.99

OPAL VISION



NEW FOR SEPTEMBER RELEASE!

The already acclaimed Opalvision Board takes three further leaps into the future with the official launch of the Opalvision modules. With truly awesome capabilities the Amiga can now become the most professional 24 - bit video graphics power station ever!

The NEW OPAL VISION system(Rev.2)

The amazing Opalvision 24 - bit graphics board and software suite has been updated and is now even better value for money.

The software suite now includes:

Opal Paint V2.0 - Now includes full magic wand implementation and Alpha Channel that allows photo compositing with selectable levels on a pixel by pixel basis. The new Chrominance effect allows absolute, real time control of image contrast, brilliance and re - mapping of colours.

Opal AnimMATE V2.0 - ofering real time play back of animations created by ray tracers, landscape generators, morphers and all other 24 - Bit software.

Opal Hotkey V2.0 - Display OpalVision graphics anytime with key combinations.

Opal Presents - Comprehensive, icon - driven presentation package.

Special Limited off er
IMAGINE V2.0 for only **£59.99** when purchased with OPALVISION
Imagine 3D is the most popular 3D rendering software, that now supports OpalVision. This is a full version that would cost £300 if purchaed separately.

"Quite simply, it's a spectacular product" - Amiga Computing
"Undoubtedly the finest, most professional paint program to arrive on the Amiga" - Amiga Format
"Professional quality at this Price can't be turned away" - Amiga User International
"The verdict was unanimous - brilliant" - Amiga Shopper

INDI PRICE £549.99

TERMS AVAILABLE OVER 6, 12, 24, & 36 MONTHS SUBJECT TO STATUS. WHY NOT RING FOR A QUOTE. SAMEDAY RESPONSE. (SEE EXAMPLE)

Panasonic *Quiet* Colour Printing

We researched the colour printer market at great depth to find a colour printer good enough to cope with Amiga's powerful output, yet at an affordable price.
We found the perfect printer in the KX - P2180 and KX - P2123 quiet printers.
We then considered that if you were going to buy a Panasonic printer you would probably need a quality word processing package to use with it. We found that too, with 'Wordworth' yet at a retail price of £129.99 we thought that might be a little too expensive on top of your printer purchase! So together with Panasonic we decided to give a copy of 'Wordworth' free with every Panasonic printer. How's that for added value?

Panasonic KX - P2180



***WORDWORTH COMPLETELY FREE! WITH PANASONIC QUIET PRINTERS.** The writers choice. The ultimate word processor for AMIGA computers. Wordworth is undoubtedly the ultimate word / document processor for the full range of AMIGA computers. The graphical nature of WORDWORTH makes producing documents faster and easier, with the enhanced printing fonts (including full Panasonic KX - P2180 and KX - P2123 colour printing support), Collins spell checker and thesaurus, no other word processor comes close. "Without doubt this is one of the best document processors for the AMIGA, Today" (Amiga Format)
NORMAL RRP £129.99 inc. VAT

INDI PRICE £179.99

The new Panasonic KX - P2180 9 -pin quiet printer. Produces crisp clear text in mono or in 7 glorious colours with new quiet technology. THe new KX - P2180 is typically 15dBa quieter in operation, than the competition.

* **Fast Printing** Speeds 192 CPS NLQ
* **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta,black)
* **Quiet printing** Super quiet 45 - 48 dBa sound level (most matrix printers are typically in excess of 60 dBa)
* **6 Resident Fonts** Over 6,100 type styles using Courier Prestige, Bold PS, Roman, Script and Sans Serif Fonts.
* **3 Paper Paths** Paper handling from bottom, top and rear for total flexibility
* **1 Year Warranty** for total peace of mind

Panasonic KX - P2123



INDI PRICE £239.99

The new high performance Panasonic KX - P2123 24 pin. Quiet colour printer offers leading edge quiet printing technology at an affordable price

* **Fast Printing Speeds** 192 CPS draft, 64 CPS LQ and 32 SLQ.
* **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta, black)
* **Quiet Printing** Super quiet 43.5 - 46 dBa sound level (most matrix printers are typically in excess of 60 dBa)
* **7 Resident Fonts** Over152,000 type styles using Super LQ, Courier Prestige, Bold PS, Roman, Script, and Sans Serif Fonts.
* **24PIN Diamond** Printhead High performance and high quality output
* **1 Year Warranty** for total peace of mind.

Panasonic LASER PRINTER

KX - P4410 LASER PRINTER





WORDWORTH COMPLETELY FREE WITH PANASONIC LASER PRINTERS. The writers choice. The ultimate word processor for AMIGA computers NORMAL RRP £129.99 inc VAT

KX - P4430 LASER PRINTER



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Two Smart Masterpieces in Colour



The DL1150 Colour and DL1250 are two smart masterpieces from Fujitsu – the second largest computer manufacturer in the world. Thanks to a unique design, these printers will save you a lot of valuable desk space.

The DL1150 is the smaller model and prints in colour on a A3/portrait or A4/landscape. If you need larger printouts, the DL1250 is the perfect choice – it prints on A2 format.

The DL1250 is monochrome but can easily be upgraded to a colour printer by use of an optional colour kit.

The 24-pin dot matrix technology offers high resolution. Many resident fonts provide a multitude of printout options. You can easily connect your computer with our printers, thanks to Fujitsu's unique DL-menu. Drivers are available, both for Windows and Amiga.

For further information please contact your Fujitsu representative, Amiga-Warehouse, Tel. 0753-554338, Fax 0753-551211 or FUJITSU PRINTER PRODUCTS OF EUROPE, Tel 081-573-4444, Fax 081-813-7371 directly.

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The most authoritative monthly columns in the business, covering all areas of specialised Amiga activity

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REVIEWS







GAMER

GAME REVIEWS

Amiga Market

NEXT MONTH ON SALE SEPT 23th



COVER STORY

AMIGA WEDS CD-ROM

Take a look at the future of the most exciting leisure marriage for years, and let your jaw sag at the superb software now in development

TURN TO PAGE 34

2 DISKS



REGULARS

Competition



Page 83

Win The One-Stop Music Shop – the Amiga's first plug-in synthesizer to offer 16-bit Midi sound from inside the machine. You could save yourself £570

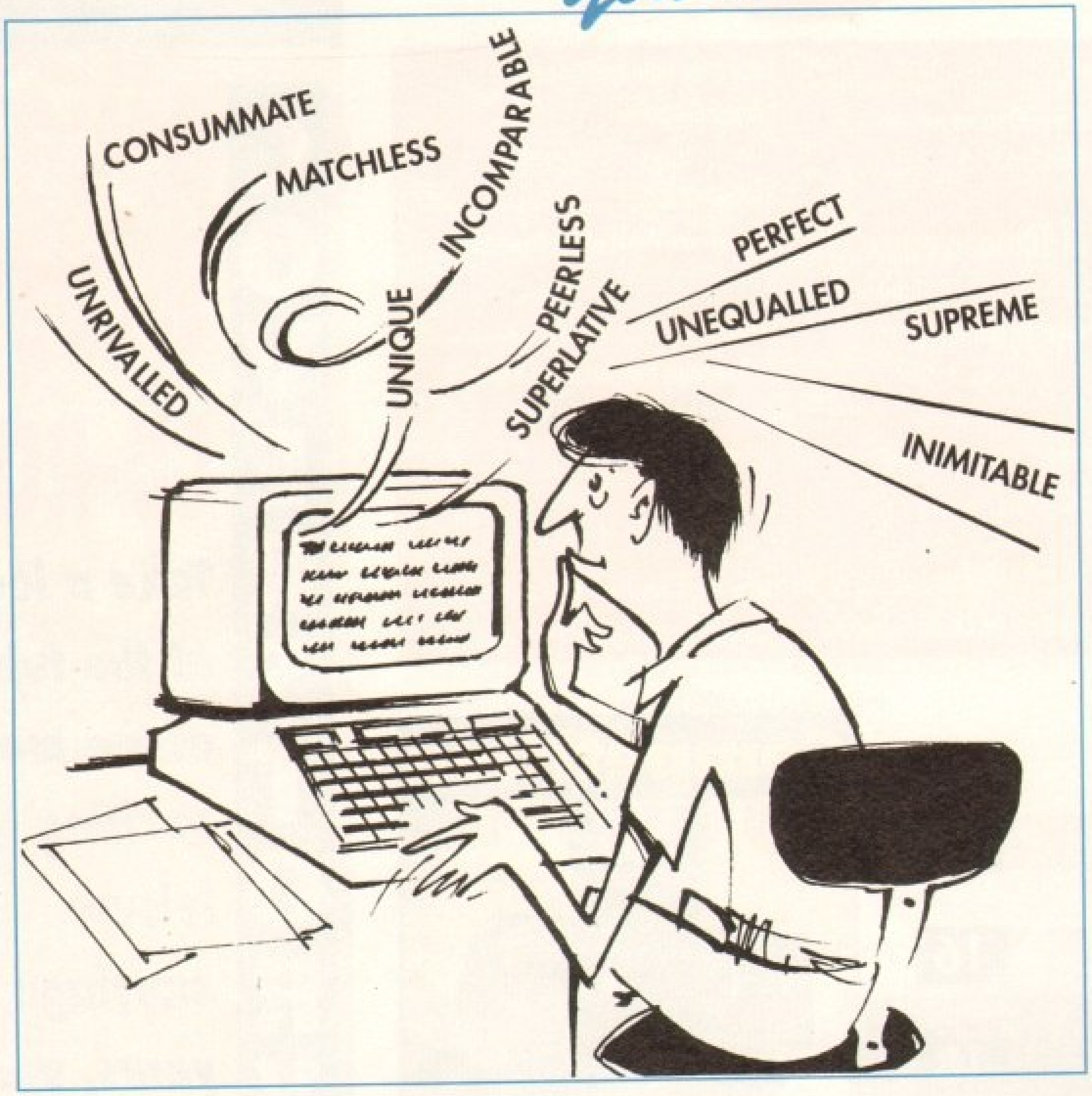
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"You won't be lost for words" . . .



. . . with Protext 5.5 because the pop-up thesaurus will provide you with inspiration whenever you need it. With words provided by Collins the thesaurus has 43,000 main entries and 827,000 responses!

Protext 5.5 introduces enhanced text formatting options. Automatic hyphenation lets you produce a well-spaced page layout without the bother of manually putting in soft hyphens. Protext determines the correct hyphenation points by algorithms and look-up tables. Elimination of widows and orphans is also provided. You will no longer need to worry about those infuriating single lines at the top or bottom of pages. Protext formats the text to avoid these as you edit the text. Extra blank lines at the top of a page can be suppressed.

New document analysis features provide a wealth of information about your text. You can examine a list of all the words used - alphabetically or by the number of occurrences. Other statistics shown include average word length, average sentence length and a table of the number of lines on each page.

Plus many more improvements . . .

- ☆ Enhanced file selector with different sorting methods, bulk copy and erase.
- ☆ Prodata users - mail merge directly from Prodata files, no need to export.
- ☆ Mail merge: nested repeat loops.
- ☆ New window-based help facilities.
- ☆ Improved line drawing.
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- ☆ Conversion to and from WordStar 5.5 and Microsoft RTF
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Choice of pull-down menu or keyboard operation, extensive printer font support and proportional formatting while editing, up to 36 files open, split screen editing, characters for 30 languages, index and contents, footnotes, newspaper column printing, file sorting, macros, indent tabs, mail merge programming language, exec files and the fastest search and replace around. Altogether the most comprehensive word processing software for your Amiga or ST.

"it's bloody brilliant" — **ST FORMAT**

"one hell of a performer" — **COMPUTER SHOPPER**

"if you need a professional word processor Protext is perfect" — **AMIGA COMPUTING**

"nothing else available comes close" — **ST APPLICATIONS**

PRODATA 1.2

New version of Prodata now with pull-down menus, mouse or keyboard operation, automatic record numbering, merge database, instantaneous filtering, prologue form, edit fields in any order, 2-across label printing. Full details available from Arnor.

Price: £40

PRICES (including VAT and delivery)

For Commodore Amiga, Atari ST or TT.

Protext 5.5	**now £80**
Upgrade from 5.0 to 5.5	**£30**
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Please return your original discs when upgrading

French or German spelling dictionary £35.25

When upgrading please return any extra spell checking dictionaries for a free update to the revised version.

☆ **Both Protext 5.5 and Prodata require 1Mb of memory**

ARNOR

Arnor Ltd (AC), 611 Lincoln Road, Peterborough PE1 3HA. Tel: (0733) 68909. Fax (0733) 67299

NEWS

by John Butters

Prices rocket as quake hits chips



COMPUTER memory prices are soaring following disasters at plants where chips and an important chemical used in their production were made.

The crisis started when an earthquake destroyed a large Japanese assembly factory, and just a few days later an explosion wrecked a second facility in the country.

Panic buying by some large computer manufacturers led to a world shortage of the chips and sent prices rocketing.

Amiga owners looking to buy extra memory for their computer are being forced to pay about £50 for each megabyte, compared to £25 before the shortage.

And small computer manufacturers, especially in the cut-throat PC market, are likely to pass their extra costs on to buyers of new machines, although Commodore are not planning such a move. The firm's spokesman, Tim Green, told *Amiga Computing*: "Commodore buy their memory many months in advance so they have sufficient reserves to rule out Amiga price rises for the time being."

According to Andy Leaning of Silica Systems, the situation has not proved as severe as some people in the computer industry first feared. He said that although the chemical plant destroyed made more than half the world's supply of resin used in memory chips, other firms have stepped up production to meet extra demand.

But some insiders expect memory costs to continue rising for some time to come.

Ladbroke Computing's Brian Davies predicts a £70 price tag for each megabyte within the next few weeks and that the crisis could last for several months.

Sampling now sounds better

GREAT Valley Products have just released a new version of their DSS 8 sound sampler with a range of improvements to give better quality sound reproduction.

DSS 8+ is based on technology developed for use in GVP's PhonePak communications system. It features automatic channel switching, a programmable low pass filter and built-in mixer.

They enable the hardware to create cleaner samples with less noise and interference, and operate at speeds up to 51,136 samples per second in mono and 42,613 in stereo.

An ARexx interface and control panel have been added to allow the hardware to be controlled from other programs and samplers.

Software from the earlier version gives users the ability to sample, edit and sequence samples in a graphical environment.

"DSS 8 was tremendously popular around the world," said Andy Leaning of British distributor Silica Systems.

"GVP have now taken the hardware from this best selling sampler and enhanced it still further to produce DSS 8+."

Housed in a clear casing, the package costs £69 from Silica on 081-309 1111. Upgrade details are to be confirmed



DSS 8+: GVP improve sample quality

Scanning with handy colours

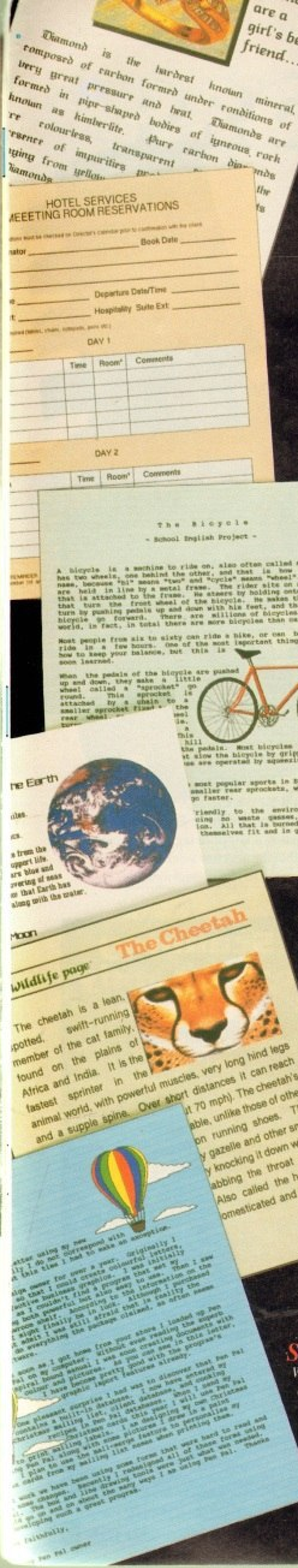
MIGRAPH ColourBurst is a colour hand scanner just added to Golden Image's (081-365 1102) range of Amiga products.

The London-based dealer claims that the device is fast, accurate and affordable and that it enables users to produce crisp, clear and vivid colour images for a range of uses.

Among its features the scanner has a half-page scanning window, adjustable resolutions between 50 and 400 dots per inch and five scanning modes.

It can handle mono and greyscale scanning, has a scan and save utility to enable images to be scanned for direct export and supports a range of file formats.

It will work with most Amigas, but needs at least 2.5Mb of memory. Four megabytes of memory and a hard disk are recommended. Price, £399 including OCR.



The Best Selling Word Processor and Database just became even better...

VALUE!

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Not surprising when you consider the extensive features at your fingertips, combined with user friendly simplicity, it was bound to be a winner! In a comprehensive Word Processor test, Amiga Format commented "There is little to fault Pen Pal, it deserves to do well" - quite a prediction it seems! Format have since said that it's "Still the best value for money..." If you're not a Pen Pal user yet, we hope you soon will be, because at just £49.95... the best just became better, even better value!



Pen Pal

A superb package, with immense power, to fulfil all your Word Processing needs, and... with an integrated Database too! It's all so easy to use, you'll rarely need to refer to the extensive 250 page lay-flat spiral bound manual. Users frequently tell us that they've never found a program they get on with so well.

THE WORD PROCESSOR: You can... Open multiple documents simultaneously; search and replace; cut, copy and paste; check your spelling with a 110,000+ word dictionary; import your favourite IFF/HAM graphics, from programs such as DPaint, or Clip Art files in various sizes and colours; automatically flow text around graphics in any Workbench compatible font (there are over 200 available styles) in different sizes and colours to suit your design... Even as you type! Full Page View with position, edit and creation of graphic objects and extremely useful forms designer. All this from a word processor and... Much, Much, More! As you can see from the documents shown on the left, this is no ordinary program!

THE DATABASE: With 32 fields per record, 32,000 records per database and a fast sort of 1000 records in less than 5 seconds, this is a *real* database. Mail merging into the Word processor couldn't be simpler, with easy creation of templates for letters or reports, into which information can be merged.

AND... Remember, Pen Pal comes with full support for the new or experienced user completely free! Friendly help for all registered owners is just a phone call away.

SoftWood - Quality software for your Amiga

*With Pen Pal you're not just getting a one off product! SoftWood are acknowledged as the World's leading software company who develop **just** for Amiga and **no other** system. Once you're a registered SoftWood product owner your investment is protected as you'll have access to unlimited free technical support [others charge you] and preferential upgrades to other SoftWood titles, both existing and future. Exciting new products are being developed right now. Pen Pal - your first step on the SoftWood ladder of Amiga software*

Pen Pal is available from all good Amiga software Dealers or from SoftWood. Call for your list of stockists.

SoftWood Products Europe
PO Box 19 Alfreton
Derbyshire DE55 7RW England
Tel: 0773 836781 Fax: 0773 8310

Pen Pal is compatible with any Amiga from A500 t... latest A1200/A4000 ranges with a mini... of 1 Mb. available free me...

News Briefs

Simple sequence

NEW software house Extra Sensory Publishing have just released an Amiga sequencer for musicians who own a Midi set-up and want a program that is easy to use.

Ordo Musica can read and write Midi files and supports the General Midi standard. It costs £30 from the firm at 97 Mafeking Road, Southsea, Portsmouth PO4 9BG.

Repairs for CDs

AXION (Europe) (0895 436078) have launched Bundee CD3, a repair system which the firm claims can get most scratched compact discs up and running.

It consists of three bottles. The first cleans the disc, the second fills in scratches with an optical filler and the third coats the disc with a fine film to prevent further damage.

The kit contains enough fluid to repair up to 50 CDs and polishing cloths. Price: £14.95.

Video pictures

DESKTOP video enthusiasts can now buy a range of Amiga background pictures from Glasgow-based Videoworld (041-641 1142).

They include sets on paper, fabric, textures, famous landmarks, weddings and first communions and a beginners' pack. Cost: £29.99 each.

Probing porn

THE Government are to investigate the spread of computer pornography following growing concern about its easy availability on bulletin boards and from public domain libraries.

TV link

A REPLACEMENT TV modulator for the A500 is now available from LOLA Electronics (0858 431072). It comes with a three-metre TV lead and costs £29.95.

Games makers agree sex rules

EUROPE'S computer and video games makers have agreed on self regulation aimed at addressing public worries about sexual and violent scenes contained in some software.

Members of ELSPA (European Leisure Software Publishers' Association) will consult the Video Standards Council to ensure games do not cause offence.

The move is aimed at showing that the games industry has listened to public and media concerns and is willing to put its house in order without strict laws being forced upon it.

The VSC was formed as a video watchdog in 1989 to administer the industry's own standards in a bid to prevent further legislation.

With new technology, an increasing number of games use film footage or realistic graphics, meaning that developers need to be familiar with video laws.

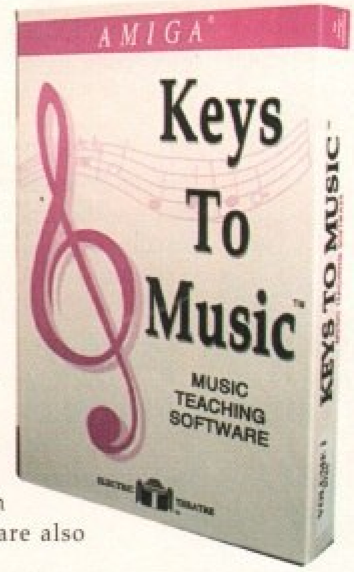
The regulation will mean that software houses will send some games to the British Board of Film Censors for video-type age ratings which will then be shown on the packaging.

An ELSPA spokesman said: "The use in any game of cinematic scenes of a sexual or violent nature could result in the game being legally required to be classified.

"It is important that the games industry recognises this, so as not to risk either any breach of the law or the current exempt status of most games."

A detailed plan specific to the computer and video games industry will be in place by early next year.

Music the write way



LEARNING to Write Music is the second volume in America-based Electric Theatre's (010 1 215 379 4538) range of Keys to Music education software.

It is aimed at musicians, beginners and teachers, and is a continuation of the firm's first program Learning to Read Music.

Subjects covered include time signatures, major and minor scales key signatures, English and Italian dynamic marks and tempo symbols, as well as commonly-used musical shorthand.

The beginnings of musical form and composition and demonstrations of how to write a song are also included.

According to its developers, the software makes any instrument fun to learn and uses synthesized speech and click-to-play examples.

Price: $59.95 from American Software and Hardware Distributors (010 1 217 384 2050) in Illinois, USA.

Planning for the future

TOP software and hardware developers from around the world are to meet in London soon to discuss the issues that will shape and create games of tomorrow.

Speakers will cover everything from the emerging compact disc technology to links with Hollywood hits. The possibility of interactive movies will be examined, and programmers will predict the type of games that could have big impact in years to come.

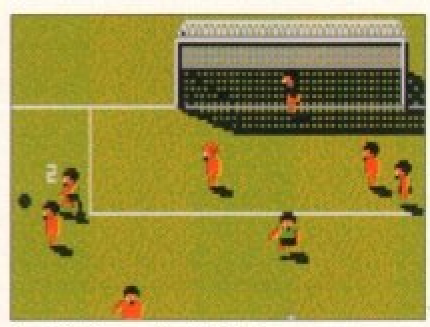
Among the companies represented will be Psygnosis, IBM, Philips and 3DO, the firm behind a multimedia player that many industry experts believe is set to dominate the market.

Dial into a TV game

BY early next year live television shows across the world could feature Amiga games which viewers can play using telephone tone pad keypads as joysticks.

Renegade's range of leisure software, including hits Sensible Soccer and Chaos Engine, has been made available to Triton Interactive Games for use on TV. Each game will be modified to include broadcast quality front and back-end graphics.

Tom Watson of Renegade told *Amiga Computing* that although one computer games show already has a phone and play feature, no other producer can use the same technology. But he said the Triton package will be sold to all broadcasters around the world.



Sensible Soccer: Play the TV game soon

Peter Beech of Triton: "There are people playing with the idea of telephone game interaction with the viewer, but no one's really doing it seriously.

"Broadcasters want innovative programme ideas and we can deliver them – real viewers, really attractive games and real interactivity."

Expansion brings education promise

SOFTWARE developers The Learning Curve (0689 850770) have just set up their own publishing division and promise to bring new education titles to the Amiga.

Until now The Learning Curve's programs have been marketed by third-party publishers including Jumping Bean Company and Europress Software.

But the firm now plan to sell education programs to Amiga users under their own name.

They will be aimed at slightly older children than products sold by Jumping Bean and details of two projects have already been released.

The first, Tumblewood Ted's Adventure in Cactus Creek, will be aimed at 7 to 11-year-olds studying National Curriculum maths.

According to its makers, the program will approach the subject in a fun-to-play way using familiar themes of the Wild West in ten games and activities.

And Bookworm will be a series of animated story books, with each package containing between six and ten stories accompanied by cartoon-style animations.

Children will be able to change any of the background pictures as well as screen activity. A simpler version of each story will introduce the package to younger users.

All will be themed to either an author or subject. The first will be based on the stories of Rudyard Kipling and is due for release around next Easter.

Meanwhile, The Learning Curve have also set up a publishing company called Rasputin Software to sell Amiga games and utilities.

The firm's first release, Jet Strike, is due within the next few weeks when players will be able to fly up to 40 types of fighter plane in a range of missions.

DIARY DATES

5 to 7 September 1993
European Computer Trade Show
Organiser: Blenheim
(081-742 2828)
Venue: Business Design Centre, London
A trade-only event where new games will be unveiled.

16 to 20 September 1993
Live '93
Organiser: News International
(071-782 6000)
Venue: Olympia, London
A public consumer electronics show. Commodore plan to attend.

11 to 14 November 1993
Future Entertainment Show
(0225 442244)
Venue: Olympia, London
A multi-format computer and console show. Tickets must be bought in advance on 051-356 5085).

19 to 21 November 1993
International Computer Show
Organiser: Westminster Exhibitions
(0222 512128)
Venue: Wembley, London
Discounted software and hardware plus product releases.

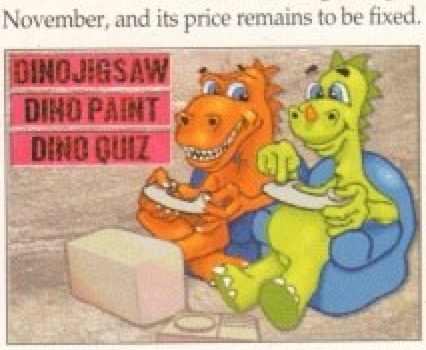
● If your company is organising a show relevant to the Amiga and it's not listed, let us know so we can include the information in the diary.

Dino-fever hits Amiga

WITH dinosaur fever taking a firm grip on the country, Optonica have announced they are making an education program based on the prehistoric reptiles for compact disc Amigas.

Dinosaurs will be the second title in the company's Insight series and is being made with help from the British Natural History Museum. Optonica (0455 558282) describe the program as a fun learning experience for all the family and say it will feature stunning 2D and 3D graphics, motion video, photos, narration and sound.

It is due for release at the beginning of November, and its price remains to be fixed.



Learn about dinosaurs through the Amiga

MathVision updated

AMERICAN firm Seven Seas Software (010 1 206 385 1956) have just improved their video effects program MathVision to give it new custom special effects.

Version 2.4 has 24-bit and AGA chip set support as well as including video production scripts and methods for building customised wipes, distortions, warps and animations.

It is PAL-compatible and supports graphics boards OpalVision and DCTV, as well as indirect links with similar products from Great Valley Products.

Seven Seas boss Otto Smith said: "Our newest product, MathVision2.4-Video, can quickly and efficiently create almost any 2D visual effect, distortion or wipe that can be imagined.

"Because effects can be so easily customised, any individual or production house can produce outcomes that are unique in style and representation."

Existing users can upgrade for $49.

VR pair improved

OWNERS of Virtual Reality Labs' landscape generator VistaPro and astronomy software Distant Suns can now upgrade their programs with a range of improvements and extras.

VistaPro 3 has full AGA support, a utility to make animations from camera to target and a preview mode for viewing animations before time is taken to render the background.

Distant Suns 4.2, meanwhile, now contains multiple resolution support and the ability for users to put their eye point up to 400 astronomical unites from the sun on any plane.

Upgrades to VistaPro cost, £43.45 and to Distant Suns 4.2, £29.45. The prices for newcomers are £69.95 and £59.95 respectively.

Anyone wanting to upgrade should send their old program disks and payment to Meridian Software Distribution, East House, East Road Industrial Estate, East Road, London SW19 1AR.

Video character in election stand

ALFRED Chicken – due soon in his first Amiga game – has decided that chicken video games should have fair representation within Parliament and has set up his own political party.

The bird was represented at the recent Christchurch by-election by Karl Fitzhugh, a video games product manager who dressed as a seven-foot chicken.

He stood for the first time just hours after the leader of the Labour Party, John Smith, admitted on Radio One that he wasn't familiar with top video games character Sonic the Hedgehog.

Alfred polled only 18 votes, but was satisfied that he had beaten at least one other party and danced on the election platform when the final result became known.

According to a party spokesman the main aim of putting a candidate forward was to add some light relief to an otherwise dull campaign.

Should he ever become prime minister, Alfred's only policy is that politicians should play video games at House of Commons Question Times.



Alfred: Picked up 18 votes at Christchurch

Events go online

PEOPLE travelling Britain can now use CompuServe's (0800 289378) giant on-line database to find details about upcoming cultural and sports events and top London pubs.

Set up in association with the British Tourist Authority, Travel Britain Online provides information on events which can be accessed by any modem-equipped Amiga.

It can be searched by location, event type or month in which an event takes place. Among those listed are anniversaries, art exhibitions, concerts and recitals, literature festivals and events at historic houses.

London pubs are listed by location – City, West End or Riverside – and up-to-date travel news is also included. CompuServe costs start at about £6 per month.

Theatre takes Amiga control

A SCOTTISH theatre production company will use an Amiga set-up as an important part of their performance when they take their latest show on tour in the next few weeks.

Zoom Theatre use three Amigas to make background graphics and animations and project the images on to a screen built into the set.

Their equipment includes an A4000 with OpalVision, A1500 with an accelerator and video graphics software and an A500P running music software.

The firm's new show is called Exhibit A and is due to visit several Scottish towns and cities. For more details contact the St Brides Centre, Edinburgh on 031-346 1405.

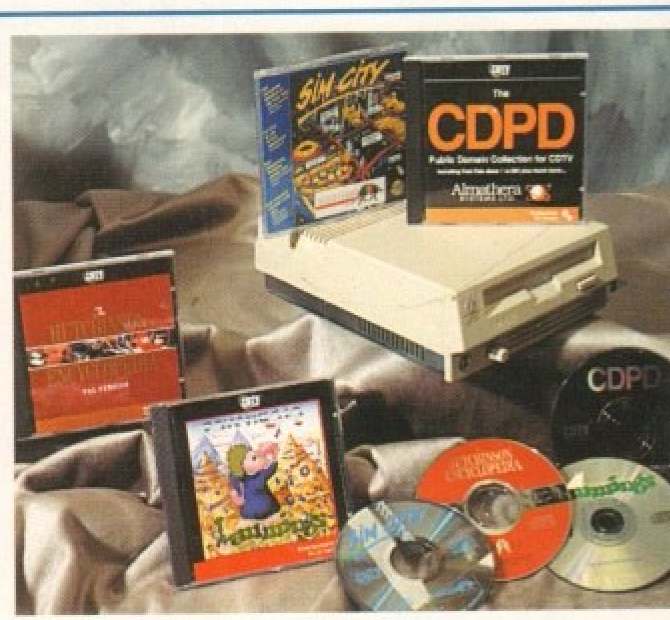
Get more free with CD

EXTRA compact discs are being given away by Silica Systems (081-309 1111) to A570 CD-ROM drive buyers in an attempt to get the technology accepted by Amiga owners.

Four games are now packed with the £149 drive: Lemmings, Hutchinson's Encyclopaedia, Sim City and the Fred Fish CDPD Collection.

"We are very eager to help as many people as possible experience the power that CD-ROM technology brings to the Amiga," said Silica spokesman Andy Leaning.

"To help these new users get off the ground we are including four of the best Amiga CD-ROM titles free."



A570: Even more free discs

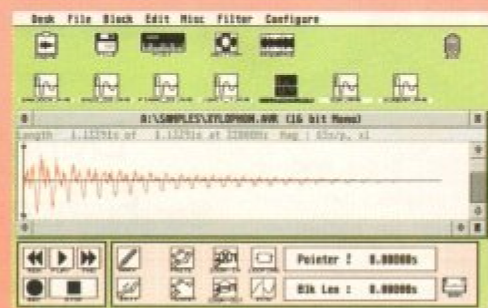
ATARI

AMIGA

High Quality Sound Samplers for all Atari/Amiga Computers

16 REPLAY

16 Clarity



Replay 16 samples in 16 bit mono, at rates up to 48khz and includes a comprehensive, interactive editor for full control over your sample.

Many Utilities are supplied including a Sample Track Sequencer, a MIDI Sample Dump, A Drum Sequencer which plays up to 4 samples simultaneously and a complete MidiPlay package for extensive MIDI programming.

Both Replay 16 (£129.95) and Clarity 16 (£149.95) are available from all good music and computer stores.

Clarity 16 allows stereo samples up to 32khz and mono samples up to 44khz on a standard Amiga. Faster Amigas can handle faster sample rates.

Extras include a full MIDI keyboard emulator, a Sample Sequencer allowing re-arrangement and re-mixing of your samples within the editor, many special effects, FFT analysis, re-synthesis of samples and much more.

ATARI

AMIGA

VIDEOMASTER

Integrated Multimedia Video & Audio Sampler for your Atari or Amiga 500/500 Plus Computer







VideoMaster combines the beauty of a video digitiser, the fun of a sound sampler and some superb software to create a truly revolutionary package that is great value for money.

Digitise monochrome video clips, quarter screen, from a video recorder or camera at up to 25 frames/sec and save the film to disk.

Add Audio using the built-in sound sampler and editing software or use an external sampler such as Replay 16, StereoMaster, Megalosound etc.

£69.95

microdeal

The Old School, Greenfield, Bedford MK45 5DE UK
Tel: +44 (0) 525 713671, Fax: +44 (0) 525 713716

Still Frame your video recorder and produce high quality greyscale stills. Or use the colour filters provided together with your Camcorder to create great colour stills.

Make your own Movies by using the built-in video sequencer to combine video clips with recorded or imported sounds, assign these to keys and then build up movies as a sequence of clips (see screenshot above) with an audio soundtrack. Additional playback modes include a picture-in-picture facility.

Call or write for more details.



Top flight sim gets better

Denny Atkin reports on the new Fighter Duel update and the latest to pop out of the Video Toaster

Although there hasn't been a lot of Amiga activity on the game design front here in the US, one company has been busily updating one of the best flight sims around to make it even better.

Jaeger Software's Fighter Duel Pro 2.0 is packed with new features, answering nearly every complaint and request lodged about the earlier version.

If you're not familiar with Fighter Duel's predecessors, you should be. The original program, Fighter Duel: Corsair vs Zero, was a one-on-one air combat game where you battled a single opponent (computer-controlled or via serial connection).

It was fairly simple, but had realistic flight models and provided an amazing 24 to 28 frames-per-second screen updates in hi-res interlaced mode, even on 7MHz Amigas.

Its successor, Fighter Duel Pro, added more aeroplanes and some truly innovative features, such as the ability to hook a second Amiga up to use to display the view behind your plane!

The program's latest incarnation adds nine of the "super planes" from the last months of World War II, including the Messerschmitt 262 jet, the rocket-powered Me-163 Komet, the Ta-152 (an enhanced Focke-Wulf 190), the Japanese Ki-84, the Russian Yak-3, the Goodyear F2G Corsair, and the Northrop P-61 Black Widow night fighter. FDPro's graphics have been enhanced, with support for non-interlaced 640 x 512 display on Amiga 1200s and 4000s, and a subtle gradient which makes the sky look more realistic.

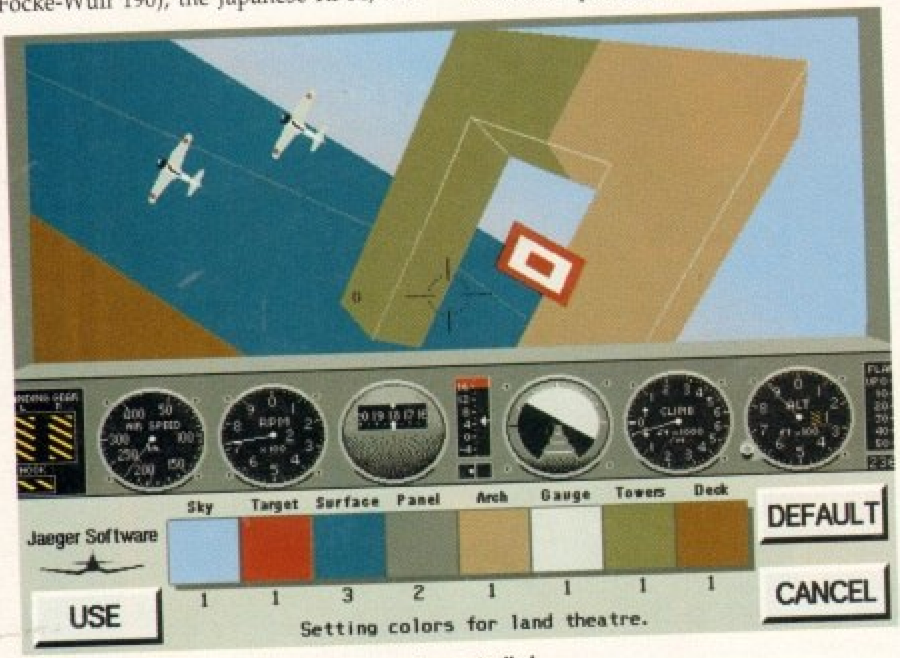
The biggest gripes about the earlier version have been addressed: Keyboard support for changing your view direction has been added (earlier versions forced you to use the mouse, which could be quite awkward in the heat of combat); you can change aircraft types without rebooting; and a Chat mode has been added so you can taunt your opponents in multi-player mode.

The multi-player mode is where FDPro really shines. You can fly with up to three friends on a total of four computers, two in each location. You hook a second Amiga to yours and a friend flies as your wingman, and your opponent does the same thing.

New to this version is the ability to battle computer-controlled opponents when you're using more than one computer – you can even have one person fly as rear gunner in the ME-110 or P-61.

FDPro's computer-controlled enemies are smart (you can fly against four enemies at once in this newest version), but nothing beats the challenge of a human opponent.

There are lots of other improvements, and even a new mode where you can act as a ground anti-aircraft gunner! Fighter Duel Pro 2.0 is available from Jaeger Software, 7800 White Cliff Terrace, Rockville, MD 20855 USA; phone 010 301 948-6862.



Fighter Duel Pro 2.0 allows up to four computer-controlled enemy planes in land and sea combat theatres

Speedy updates

If you purchase Digital Creations' Brilliance paint program (see full review starting on page 76), don't forget to send in that registration card.

According to sources close to the company, the program will be updated almost immediately to add a few features that the company just didn't have time to cram into the first release version.

The most significant of these is animation paths, which will let you draw a path on-screen for animbrushes to follow. Look for the new version by early Fall.

More toast, please

Although many US Amiga users are worried about the future of the computer in this country (Commodore is a mere shell of a company here now – a large percentage of the development, support, and marketing staff has been laid off over the past couple of months, and many others have resigned), NewTek's Video Toaster keeps bringing plenty of attention to the machine.

Two new TV series, Steven Spielberg's *Seaquest DSV* and J Michael Straczynski's *Babylon 5*, will be using Video Toaster 4000 workstations for most of their special effects this year.

Not content to sit back and enjoy their success, the boys from Topeka announced the Screamer at the SIGGRAPH graphics show in August.

This box attaches to the Toaster 4000 and sports four parallel R4400 RISC processors which give it over 600 MIPS of performance! NewTek says the $9,995 Screamer gives the Toaster twice the rendering power of a Cray I supercomputer.

Now if they'd just bring out a PAL version...

SCSI users get CD-ROM

If you've got a SCSI controller on your Amiga and you'd like to hook up a CD-ROM, Canadian developers AsimWare Innovations have the solution.

AsimCDFS is a CD-ROM file system for the Amiga that reads CDTV, ISO9660, High Sierra, and Macintosh HFS CD-ROM formats. The program is also useful for CDTV owners, since it adds Mac support and some handy utilities.

The company has just announced v2.0, which includes ARexx support, a Preferences editor to make the driver easier to configure, compatibility with more drives, and an updated CD containing Fred Fish disks through to number 880.

PHOTO CD

The biggest news, though is one of the included utility programs: Along with AsimTunes (which has been completely rewritten), a CD-audio player, AsimCDFS now includes AsimPhoto, which reads Kodak PhotoCD discs and exports the images in 24-bit IFF format.

Now you can take pictures using your camera and regular 35mm colour film, take them to your local processing shop, and have them put on a CD-ROM disc.

With AsimPhoto you can then use the images in your favourite paint and desktop publishing programs. For information, contact AsimWare Innovations via phone at 010 416 578-4916, or fax them at 010 416 578-3966.

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X-rated games come a step closer



As the games industry moves toward self-regulation, is the prospect of clumsy government legislation now less immediate?

The joint issue of pornography and violence in computer software, for long a subject on which *AC* has campaigned (see this year's May issue for our latest article on the subject) has finally come to prominence to the extent that the games industry has been forced to self-regulate.

In a move which seems aimed at assuaging fears prompted by several recent TV programmes, the members of the European Leisure Software Publishers Association (Elspa), including most of the big UK and European games houses, have adopted the guidelines laid down by the Video Standards Council (VSC) on what should and should not be included in games.

The move will have little impact on most floppy-based games, with the possible exception of those which make use of digitised images or particularly gruesome graphics (Elvira springs to mind), but the fledgling CD games industry will have to watch very carefully its p's and q's over the six-month trial period until new guidelines are formulated at the beginning of next year.

Games released on the capacious CD medium will no doubt contain more graphics than was previously possible, and any which utilise Mpeg technology to bring real-life, full-motion video (FMV) to games will automatically be subject to classification, as director James Ferman of the British Board of Film Classification (BBFC) revealed to *AC* in May.

VOLUNTARILY

Broadly speaking, Elspa members have voluntarily taken on board a set of rough rules which, if followed, should ensure that no game will fall foul of the Video Recordings Act of 1984. As the loophole in this law allowed any video game to escape classification except where it contained acts of gross indecency, it has had little bearing on the games industry till now, but with the advent of FMV the situation is set to change.

If, for example, a CD game using digitised martial arts sequences and special effects shots of badly injured opponents, bloody fights, and so on was released tomorrow, the BBFC would drag it in and most probably slap an 18 certificate on it as a video product rather than a video game.

Industry figures have expressed doubt as to whether such games will be available while the installed user base of Mpeg owners is very small, but the fact that they are now possible and public concern is growing is reason enough to attempt self-regulation.

This action worked well for the video industry when, in 1989, the Video Standards Council was formed at the insistence of a government which was concerned but anxious to avoid further legislation, and it is to be hoped that it will work now.

Where the system might fall down is in the duplication rooms of the software porn merchants who know just how far they can go and how much money they can make.

Unaffiliated to Elspa and the mainstream industry, these cowboys are responsible for many of the underground pornographic CD-ROM discs presently available on the PC, and even for much of the pornographic material available on floppies and bulletin boards.

Police have enjoyed a measure of success recently in controlling the porn merchants, but the danger that these people will tar the whole industry with the same brush and drag us all into compulsory universal classification is still very real.

If Elspa manage to convince the Home Office that self-regulation works, and a workable set of sensible guidelines are brought into force next year, we should thankfully avoid the long and sometimes rather arbitrary arm of the law.

However, should CD-based games take off in a big way, a trend which many predict, and foreign companies with no allegiance to Elspa or European regulations begin to stretch the line between what is and is not acceptable, our somnolent MPs will eventually have to react to public pressure.

So long as enough parents voice their concern, and enough sensationalistic headlines can be guaranteed, the tabloids and television stations are sure to return to this issue over and over again.

Without care and active monitoring on the part of the industry, the days when one could walk into a software store and buy a game without the use of a driver's licence or other proof of age could soon be over.

No-one disputes that this would be a blow to the industry and an unwelcome development, but everything now depends on the good sense and propriety of the games houses themselves.

For the next six to 18 months the activities of these companies and the products they release will be well and truly under the microscope of the media as well as the myopic gaze of the House of Commons.

The big question is whether or not we can all act to ensure that reports of nothing other than a vibrant, enthusiastic, fun industry are the result of all the scrutiny. If not, you can kiss goodbye to your games-buying freedom.

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DISTRIBUTION COMAG (0895) 444055
SUBSCRIPTION 051-357 2961

Member of the Audit Bureau of Circulations
ABC 64,418
Jan-June 1992

Published by Europress Enterprise Ltd.
Europa House, Adlington Park,
Macclesfield SK10 4NP
Tel: 0625 878888
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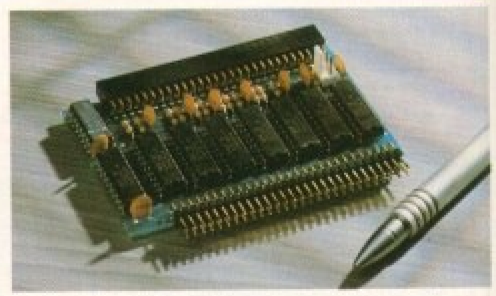
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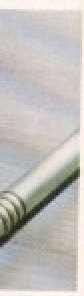
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Imagination is the limit with Caligari, an incredibly powerful 3D modelling and rendering system designed to let you create outstandingly realistic objects and backgrounds

the DISK

3D made easy

Workbench 1.3 only

Caligari is a 3D solid modeller capable of producing some stunning results. The program has two fundamental aspects: Object Design and Scene Design.

Models are built from simple predefined objects, known as primitives, which are glued together to make more complex objects. By drawing 2D shapes and telling Caligari to process them, the user is able to create his/her own primitives. Two different algorithms can be used – the first rotates a user polygon around an axis while the second extrudes the shape.

Once an object has been completed as a wireframe, colour attributes can be added to its components and the model test-rendered.

Finished objects are loaded into the scene designer where lighting effects are added and the composition process begins. Once that is complete, the picture can be saved as an IFF file.

Load up the program and we'll go on a more detailed tour. Click on the Object Design button and a window will open with a grid drawn in perspective, and a menu strip. Click on the button labelled Prim to provide a pictorial list of 18 graphic primitives. These are sets of simple building blocks that can be resized, manoeuvred and glued together to produce more complex objects. There are also four buttons on this control panel labelled Load, AutoLoad, AutoExit and Done.

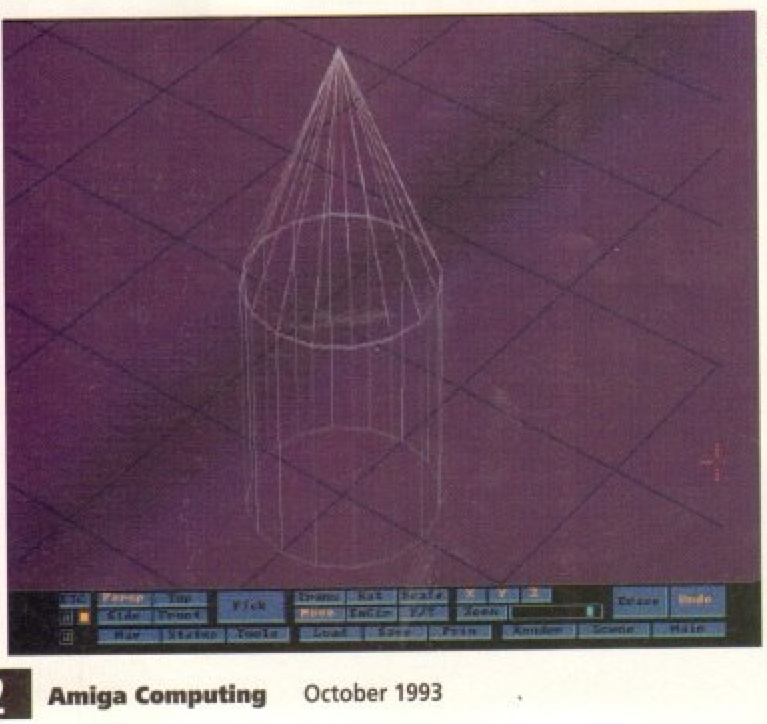
When Autoload is activated, graphic primitives will be loaded automatically without having to click on the Load button each time a shape is selected.

This is a handy time-saving device that you may like to use when you become more familiar with the package. The Done button returns you to the main control panel, while AutoExit is another labour-saving feature. It will return you to the main control panel as soon as a primitive has been loaded.

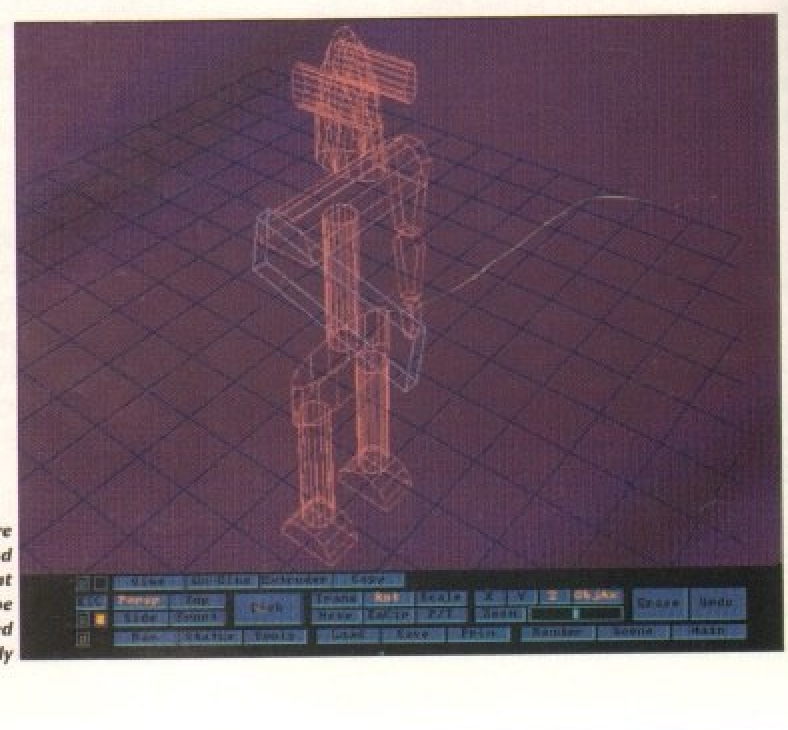
In order to get a feel for object manipulation, we will take you through a few examples. First of all, load the cone primitive and the cylinder next to it. Both images are drawn on the same point so that the cone appears to be inside the cylinder.

We need tell the program which object we wish to manipulate, so click on the Pick button followed by the wireframe drawing of the cylinder.

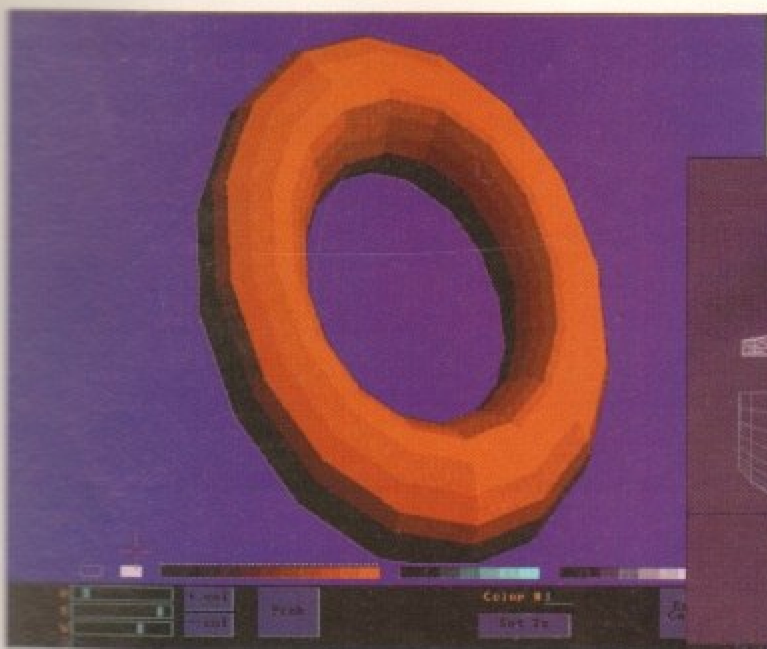
Now click on the Trans button to tell Caligari that we want to transport the



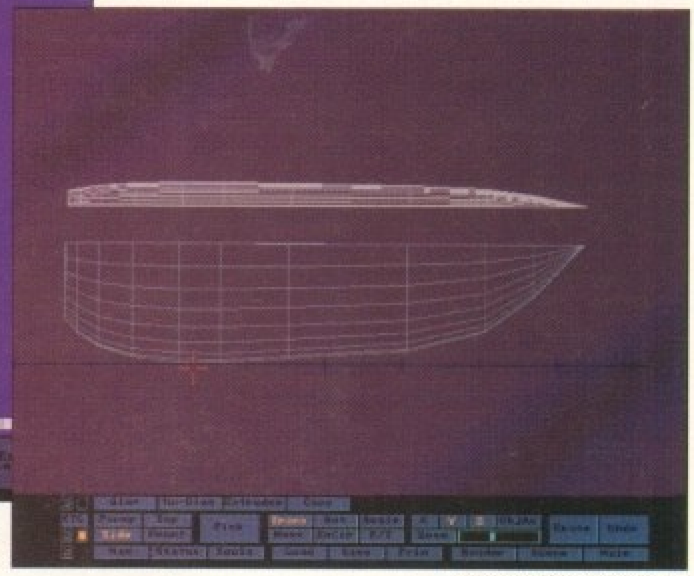
Joining the cone and cylinder primitives



Objects are hierarchical and allow component objects to be manipulated individually



A doughnut produced with the lather tool



Joining the deck to the hull

cylinder around the screen. Strictly speaking, Trans is short for translation but making the association between the button abbreviation and the word transport makes it easier to remember what it is for.

There are three buttons labelled X, Y and Z that can be used to restrict the direction in which an object is moved. Set these so that X is the only plane that is enabled, then press the left mouse button, moving the mouse away from you then back again. Now try this with both X and Y highlighted.

So far, we have only been looking at the objects in perspective but it is also possible to view and manipulate them from the side, front and top.

The view is controlled using the four buttons immediately to the left of the word Pick on the control panel. All views with the exception of Perspective are 2D so objects can only be moved in a maximum of two planes. Having experimented with moving primitives, we are now going to put our practice to use by joining the cone to one end of the cylinder.

Working in the Side view, highlight the Trans button. Ensure that both X and Y are also highlighted then click on Pick followed the line drawing of the cone. Now place it on top of the cone. To aid accuracy, you might like to use the Zoom function which is controlled with the slider.

Because the side view is only a 2D representation of the objects, we need to check that they are aligned in the third dimension by selection the front view. The chances are that you will need to align the cone and cylinder in this view too. Once both objects are correctly aligned, return to the Perspective view then click on Tools.

As we are going to join our objects, click on Glue then on the cylinder so that both it and the cone are drawn in white. They should now be joined and it should be possible to move them as a single object. Notice how Caligari uses a bonding box to represent the object while it is being moved. This allows a real-time response to be maintained while retaining a sense of the object size and orientation.

Any object can be re-sized using the Scale mode. To simply enlarge or reduce an object, click the Scale button and ensure that X, Y and Z are all highlighted, then drag the object to the size that you require.

By carefully combining the direction buttons, objects can be made fatter, thinner, taller or shorter. As an experiment, scale our object with X and Y activated, then with just Z. If you make a mess of things, use the Undo function to restore the drawing.

It is also possible to rotate any object by clicking on the Rot button and dragging the mouse with the left button held down. As with the transport object mode, the direction of movement is controlled with the X, Y and Z buttons.

Up until now, we have only viewed our example object as a wireframe model, so let's look at rendering it. Zoom into the model so that it fills the screen, then click on the Render button. After a short delay, it will be drawn as a solid model.

To invoke the render menu-strip, double click the right mouse button. As you will see there are options to save the image as an IFF picture, and to print it out. The key function, however, is the ability to alter the object's colour attributes.

Clicking on the Color button takes you to the heart of the rendering facilities. Just above the slider controls, there is an outline of a box which represents the screen colour.

As this colour is dull, let's change it by clicking on the box and moving the sliders. Unlike some packages, these do not allow RGB control and instead allow you to change Hue, Saturation and Value Space. Hue is just another word for colour, saturation alters the strength of colour, while value space changes its intensity.

The colour of the example object can be changed in two ways. The first is to change the colour number, so that the object is shaded using a different logical ➤

CoverDisk Hotline

Amiga Computing operate a CoverDisk hotline on 0625 859766 to help anyone experiencing problems. It is ONLY available on Thursdays between 2-5pm so please do not try to call us at any other time as you won't get an answer.

ImageFX Demo Workbench 2 fix

In order to use last months ImageFX demo on an Amiga 1200, hold down both mouse buttons, while booting, and disable the CPU cache.

10 out of 10 Maths demo

Mathematics is an area of education that often bores even the most enthusiastic pupil. However things don't have to be like this, as the 10 out of 10 Maths Number Demo from Triple R proves.

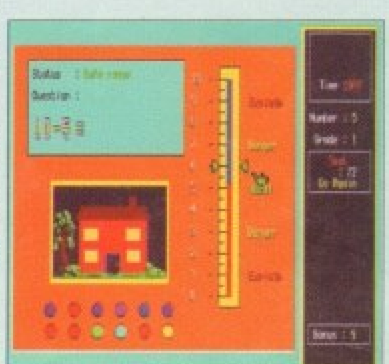
Each of the six games is tied closely to the National Curriculum and incorporate tests appropriate to given Attainment Targets.

To see what each module covers, click on the Player Information box then move the mouse pointer over the section numbers. When the pointer is positioned over a number an interpretation of it will appear at the bottom of the screen.

The demo has been set up with an example user that we have called Test. When a new player is added, an attainment record is produced which has black boxes for each Attainment Target (just as with our Test player).

After playing a game, the box for the level played will change colour according to the score achieved. A score of less than 50 per cent results in a red box, over 50 a yellow one, with 100 per cent being rewarded with a green box. If a player achieves ten green boxes for a game, they are awarded the status of Genius which is denoted by a blue box.

Names are added by selecting the New Player option, and deleted using Remove Player. There is plenty of room on the unarchived disk for no less than 64 players so the chances are that you won't need the Delete option anyway.



When a game is played for the first time, the level one questions will be used which are easy. Once this has been successfully completed, a player may opt to play the same level again or to move on to the next one, which will be slightly more taxing.

Each game has a high score table which records the date, grade, percentage and overall score plus, of course, the player's name.

In the full version, these details are written to the disk to create an on-going challenge but in our demo version they are lost when you return to the main menu.



colour, while the second is to alter the colour itself.

To change a colour range, click on a colour and use the sliders. Any objects rendered with the selected range will be changed too.

It is also possible to change the individual colours of the component parts of an object. To do this, click on the Pick button followed by the down arrow.

One of the component parts will be highlighted automatically, though another piece may be selected by clicking on it within the pick environment. Having made a selection, return to the Colour menu and click on a new colour range followed by the Set To button. The change is not immediately apparent so return to the Pick menu and select the up arrow to see it.

Strictly speaking, this method of selecting component parts is known as hierarchical access. With our simple example, it is not possible to examine the full potential of the technique so it is time to take a look at an object created by Octree, the people behind the program. Return to the main menu and click on the Erase button to get rid of the cone and cylinder example then click on Load. There are seven example objects that you might like to examine but for now just load up the one called Robot.

Just as a matter of interest, this model only took around 30 minutes to design because it went through a conceptual stage. In other words, the designer decided it should have arms, legs, head and so on, but was not too concerned about what they actually looked like.

Clearly, there is a substantial benefit to using this strategy so it is worth bearing in mind when you want to create an object in a hurry.

Being a construction, the wireframe components of the robot can be accessed in isolation. Use the Pick feature of the main menu to select one of the robots arms then click on Rot. It should now be possible to swing the entire arm backwards and forwards.

By using the Pick facility again, the forearm can be selected and rotated around the Z axis in the same way.

When creating objects, the pre-defined primitives will not always meet your requirements. However it is possible to create your own using the Extruder tool. For the next example, we are going to play around with extruded polygons then create a sailing boat of our own.

Click on the Tools button followed by Extruder. Moving the cross-hair cursor and clicking leaves a line on the screen. If the Snap Grid option has been selected, these will be drawn to the closest grid intersection.

Draw a series of lines, using a combination of Grid Snap and freehand drawing, to get a feel for the two drawing modes then turn the lines into a polygon by clicking on the Close Poly button. A point worth noting is that the Undo function is nested, making it possible to repeatedly delete lines in the order in which they were drawn. Having drawn a polygon, it may be used in a construction by clicking on the button labelled Flat. The polygon will then be drawn in the main object environment, parallel to the grid, and can be manipulated in the same way as any other primitive.

Flat objects are quite limited, and it is more usual to generate ones created with either the Extrude or Lathe options which have more visual impact.

If you just experimented with the Flat option, go back into the Extruder and draw another polygon. Click on extrude and the shape will be transformed into a 3D object.

The final way to generate an object is to use the Lathe option. Draw another polygon, then select lathe which will effectively spin your polygon around a user-defined axis. This axis may be defined as an existing line (edge) of the polygon or as a completely separate line. The best way to see the difference is to play around with the two options.

With the lathe, it is easy to create doughnut-like rings which come in handy as tyres, though their use is only limited by your imagination.

To make one, draw a circle on one side of the screen, define a rotation axis well away from it then click on Go. When it comes to rendering doughnuts, be prepared to wait a long time as they have a large number of faces.

Now we have shown you enough to tackle a sailing boat. There is a pre-defined one on the disk which you might like to load up so that you can see what we are aiming at. It is composed of just six objects: A hull, deck, mast, boom and two sails.

The obvious starting point is the hull, so erase the image and start up the extruder tool.

Draw an outline of a hull, as it would be seen from the side, then click on Lathe. Using the Pick Edge as Axis button, select the top line (deck) as the rotation axis then click on Settings.

From this menu the number of segments can be changed as can the number of degrees that the polygon is to be rotated through.

We only need to rotate our hull outline through half a circle, so click on the Total

Amiga Computing Prize Survey

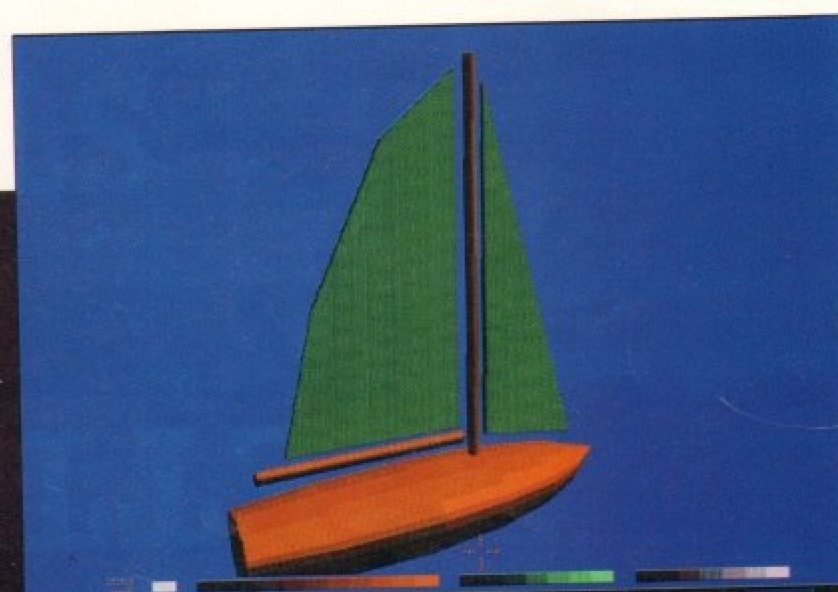
It's quite a while since we last included a survey in the magazine and we feel it is time to ask a few questions so that we can continue to provide the sort of coverage that interests our readers.

Rather than fill up the magazine with pages of survey, we have opted to include a small program on the CoverDisk and ask you to send the disk back to us after answering all the questions.

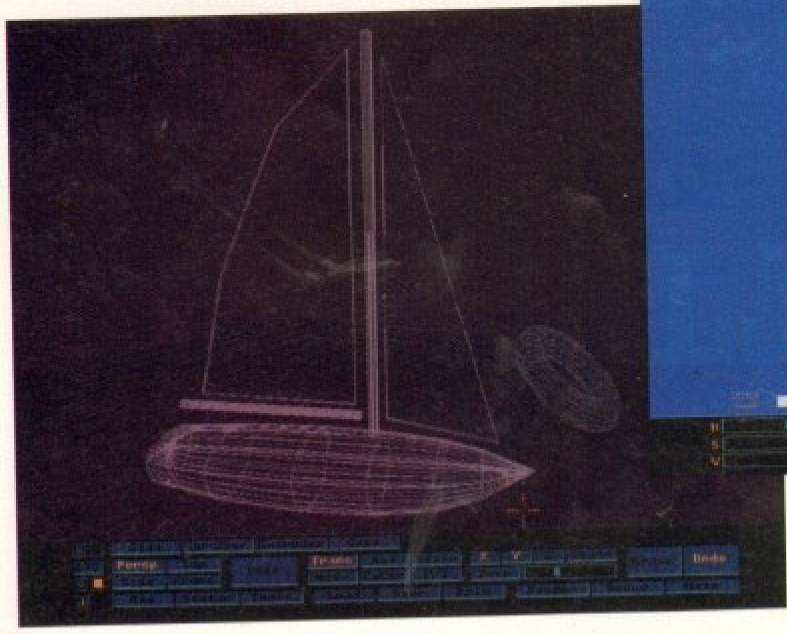
In return for your co-operation we are offering no less than 500 prizes in the *Amiga Computing* Prize Survey. Entering the competition is free and couldn't be easier - turn to page 31 for details.



Will you be a winner?



...and fully rendered



The completed yacht in wire frame...

Angle field and enter 180. Increasing the number of segments will add to rendering times so, for the purposes of this example only, do not alter this setting.

Click on Go, so that the hull is drawn in 3D, then rotate it so that the base of the hull lies on the grid. Don't worry if it doesn't look very boat-like as this can be corrected using the Scale function, selecting the Z axis and dragging the hull into shape. Use the Scale function to increase its size then check and re-adjust its position so that the front and side views correspond with the front and side of the hull. This is not an essential step but it will make things easier, as will making the top line of the hull parallel to the grid.

Having done that, go into side view and click on the Copy tool. It will not be immediately apparent that a duplicate object has been made because it will occupy exactly the same co-ordinates.

We will use the copy of the hull as the basis of the sailboat's deck. Rotate it through 180 degrees, so that it is upturned, then position it on top of the hull. Use the Trans facility and checking how it looks viewed from the side and front.

Select Scale with only the Z axis selected and squash the top so that it looks more like a deck. The next step is to check its position, correcting it as necessary, before gluing the two pieces together.

To make to mast, we can load the cylinder primitive and change its shape to suit our needs. Make it taller by scaling it in just the Z axis and reduce its diameter with only the X and Y axes enabled. The easiest way to position it on the boat is to use the top view.

We could create the boom in exactly the same way but it is quicker to make a copy of the mast and alter that.

Once the boom has been glued to the mast so that it lies to the stern of the yacht, we only need two sails to complete the model.

Both of these can be designed using the Extruder tool and turned into flat objects. When gluing them to the model, be sure to check that they are correctly aligned by using the side, front and top views. Having completed the sailboat and adjusted the colour scheme, save it to disk before moving on to the Scene editor.

Manipulation of objects in the Scene Editor is essentially the same as in the Object Editor. The difference is that Objects cannot be created in the Scene Editor and lights cannot be added in the Object editor.

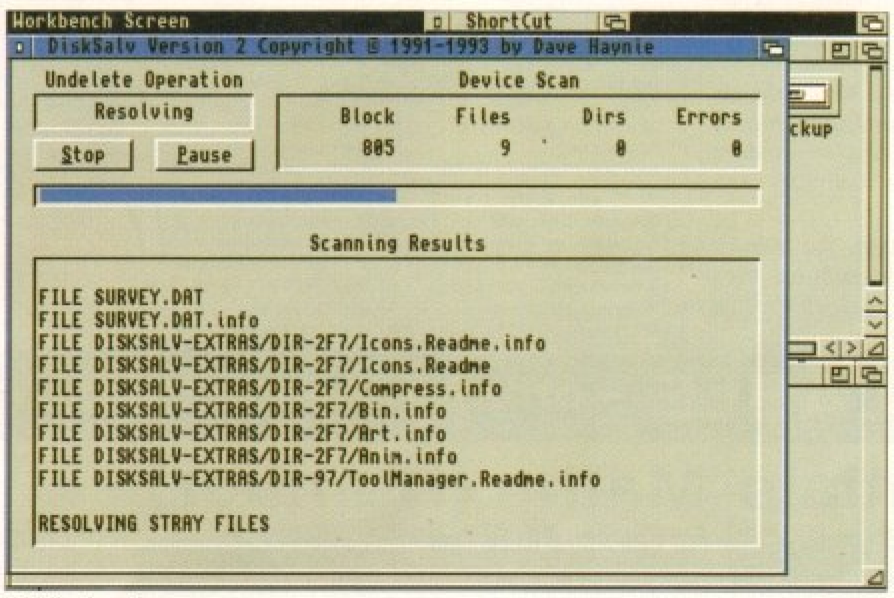
Think of Caligari as a film studio and you will realise that it does not make sense to add lighting effects to props in the workshop or to build props on the film set.

Objects are only moved from the workshop to the set when they are complete which is why Caligari objects need to be saved when moving from the design environment to the Scene Editor.

Objects that have been loaded into the Scene Editor can only be manipulated using two tools: Copy and Lights. The first of these duplicates models, in the same way as the Object Editor, while Lights allows any number of light sources to be defined in 3D space.

To tell Caligari that we want to define a new light we have to click on the Add Light button then enter some values for the Intensity, SoftSize and the three axis that indicate the position of the light source.

Each of the values takes the form of up to four digits, followed by the decimal point, then three digits. Once these fields have been changed, click on the Load Settings to indicate that you have finished entering the parameters. Once the lights have been added the final step is to render the entire scene and save it to disk as an IFF file. Have fun!



DiskSlav in action

DiskSalv 2

Workbench 2 and 3

Author: Dave Haynie

DiskSalv is one of the most useful shareware utilities around. As the name suggests, it is capable of repairing damaged disks to their former state. Although it was designed to be used with hard drives there is nothing to stop you using it with faulty floppies.

There are five modes of operation and the program may be used with a large ➤

F117A Stealth Fighter

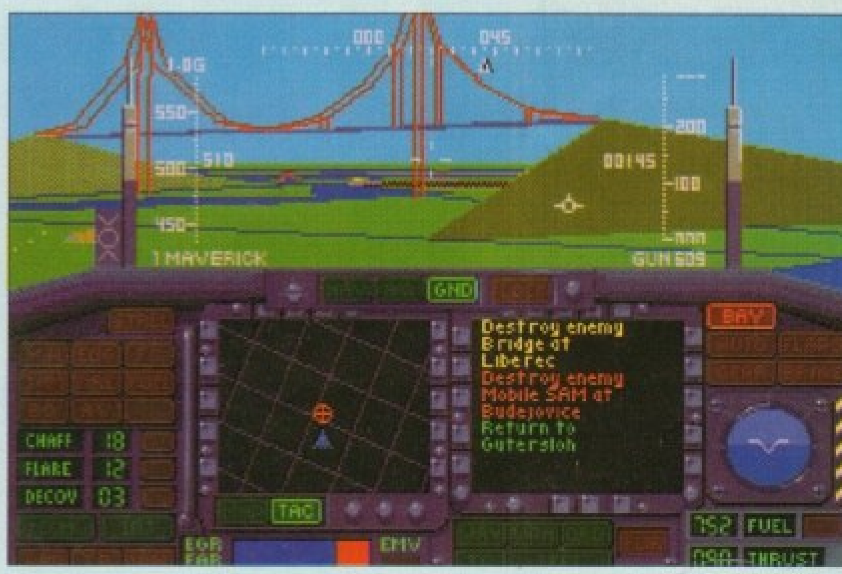
This month sees the launch of a new flight simulator from Microprose in the form of F117A Stealth Fighter. *Amiga Computing* has been given an exclusive demo of this fabulous game which contains a mission that can be found nowhere else, not even in the full version.

Enemy forces are gathering and it looks like a major offensive is about to be launched against you. The government have requested that Stealth missions be flown to destroy key targets.

Your mission is to take off from Rhein-Main and obliterate the primary target of the bridge at Liberec. Having done that, the secondary target is a Mobile SAM at Budejovice which you should destroy before flying to Gutersloh and landing.

To take off, press the + key until the thrust reaches the maximum of 100, coast along the runway and pull up at the end. Press 6 to raise the landing gear and you're airborne.

As you would expect, the Stealth Fighter is a complex beast and is packed with an equally complicated cockpit. Learning all the keyboard controls may take some time but it is definitely worth persevering.



Keyboard controls

1 - Flare
2 - Chaff
3 - IR Jammer
4 - ECM
5 - Decoy
6 - Gear Up/Down
7 - Auto Pilot On/Off
8 - Bay Doors Open/Close
9 - Extend/Retract Flaps
0 - Brakes On/Off
+ - Increase Throttle
- - Decrease Throttle
Backspace or Joystick Fire - Fire Cannon
Return - Fire Weapon
Space - Change Weapon Bay
/? - Track Camera Ahead
>. - Track Camera Rear
<, - Track Camera Right
M - Track camera Left
N - Designate New Target
B - Select Target
Z - Zoom Tactical/Outside views
X - Unzoom Tactical/Outside views
Alt P - Pause
Alt D - Detail Level Adjust
Alt T - Activate Training Mode
Alt R - Resupply (training only)
F1 - Cockpit
F2 - HUD Mode (Ground/Air/NAV)
F5 - View Weapons
F7 - View Waypoint
F9 - Instrument landing System On/Off
F10 - View Mission Orders
V - External Shot With HUD

Outside views

SHIFT F1 - Slot view
SHIFT F2 - Chaseplane view
SHIFT F3 - Side view
SHIFT F4 - Missile view
SHIFT F5 - Tactical view
SHIFT F6 - Inverse Tactical view
SHIFT F7 - Multi view

Tool Manager

Workbench 2 and 3

Author: Stefan Becker

This utility allows programs to be called from the menu bar or by clicking special icons that are attached to the Workbench Screen. The advantage of launching a program by either of these methods is that there is no need to clutter the screen with lots of open windows.

Tool Manager makes extensive use of Workbench 2 features and allows programs to be run via commodity hotkeys. When the utility is launched, by double clicking on its icon a number of tools are added to the Tools menu and a special program icon is added to the Workbench screen.

Because the CoverDisk has two large windows, this icon will be obscured so reduce the size of the windows to find it. Notice that four more application icons have also attached themselves to the screen.

These have been defined in the program's config file and we have left them available for readers who decide to install Tool Manager on their hard drives.

As they stand, they cannot be used from the CoverDisk because they attempt to load programs that are found on the disks supplied with your machine. Obviously, it would have been a waste of space to put programs such as IconEdit on our disk too.

Let's take a look at how to edit these tools. Double click on the Tool Manager icon or press the Right Amiga and Help keys simultaneously.

This results is a window being opened that displays all of the currently available tools. Select the Show Text tool by clicking on its entry, then click the Edit button. A second window will open showing some details about the tool.

The first field tells Tool Manager which environment the tool can be launched from. This can be set to the usuals of CLI and Workbench but also allows a dummy tool to be defined which serves to seperate entries in the Workbench tool menu.

Alias is used to define the text to be displayed with the applications icon, in this case it is Show Text. The real name of the tool and its path are entered in the next field.

These two entries do not have to be the same and it is often more useful to define the alias so that the purpose of the tool is instantly recognisable.

As we have not included the program More on the CoverDisk, we could change the tool to one that is. The tool that we use to display text files is called MMPP (Much More Power Packer) and it found in the C directory of the CoverDisk. To change the tool to this one, click on the RealName field and enter the following text:

```
c:mmpp
```

Workdir specifies the default directory that the tool will use. For example, if you were setting up a wordprocessor, you could get it to use a directory called Letters everytime the wordprocessor was run.

The stack is an area of memory used by the Amiga's operating system. Some applications require this to be changed to a larger value before being run. Tool Manager is capable of handling this function and will set the stack size automatically, according to the value in this field.

Hotkey definitions are entered in the next field. As there is no definition for this tool, we will define one as the key combination Right Amiga and S by entering the following text:

```
rcommand s
```

Now, whenever we want to look at a file, we can just press the Right Amiga key and S at the same time. A full list of keys that can be used in hotkey definitions has been included in the documentation.

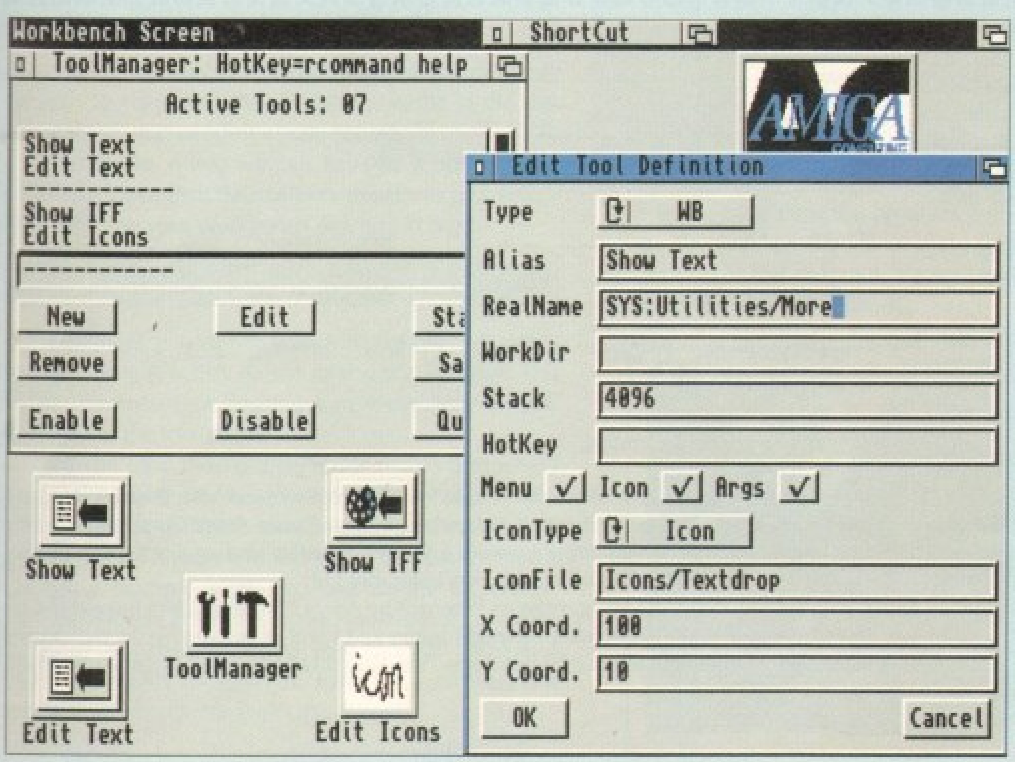
There are buttons to indicate whether Tool Manager should add the application to the Tool Menu, Workbench screen and to disable argument passing for programs that do not require any.

IconType allows the displayed icon to be either an icon, or as an IFF brush that has been created using an art program such as Deluxe Paint.

Either way, Tool Manager needs to know where the appropriate icon file is to be found on the disk, which is precisely what that IconFile field is for. The final two fields are labelled X Co-ord and Y Co-ord and control the screen location of the applications icon.

Having made some changes we need to click the OK button to return to the list of available tools then close this window by selecting the close gadget. Now when you click on the Show Text icon, MuchMorePP will open a window so that you can select a file to view.

Finally, there is an easier way to set up an program as a managed tool. All that is required is to drag the application icon and drop it on the Tool Manager icon. This will result in the essential fields being defined which makes editing them a doddle.



Change the Show Text tool to C:mmpp



➤

complement of filing systems from the standard Ordinary Filing System (OFS) and Fast Filing system to the more obscure ones.

By default, the program uses a best guess by examining the device and selecting the closest filing system.

When working with floppies, it is a good idea to make a copy of the damaged disk and try to repair the copy rather than the original.

If you have a damaged floppy, insert it in a drive then select it from the Device For Scan window. There are two ways to restore files, Recover-by-Copy and Fix-in-Place.

The former will copy recovered files from the damaged device to a second, user specified device. Fix-in-Place, on the other hand, attempts to fix files *in situ*.

Salvage restores all files that it finds, using recover-by-copy. Undelete is essentially the same as Salvage but allows the user to interactively select files to be restored.

It is easy to accidentally erase files that you want, particularly when wildcards are used in conjunction with the AmigaDOS Delete command. Assuming that you have not saved anything to the disk, it should be possible to recover the lost file(s).

Validate mode is used to fix disks that are not severely damaged, while the Repair option performs a similar task but is more powerful. Finally, there is an Unformat mode which is not quite as powerful as you might expect.

The reason is that it can only recover a disk that has been formatted using the Quick option, so if you are in the habit of formatting disks in this way, you may be able to recover files from an accidentally formatted disk.



CineMorph Junior WB1.3 fix

We gave away CineMorph Junior with the August issue and despite much brain wracking, we could not find any way to make it run on Workbench 1.3 machines. However, one of our readers, John Cook from Portsmouth, has found a fix to make it compatible.

Once the program has been de-archived onto its own disk, the asl library must be deleted to make CineMorph Junior run. In order to do this, boot from your Workbench disk, open a shell window then enter the following line:

```
delete CineMorphJr:libs/asl.library
```

Having done that, insert the CineMorphJr disk in DF0:, reboot and you should find that the program now runs. Thanks for phoning up with the solution John, we are extremely grateful.

Faulty CoverDisk?

If you subscribe to *Amiga Computing* and your disk has been damaged in the post, please return it to:

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FREEPOST,
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If you bought your magazine from a shop and found that the CoverDisk was damaged, please return it to:

Mr Les Bare
Pro-Soft,
5 River Gardens Business Centre,
Spur Road, Feltham
TW14 0SN
Tel: 081-890 8290

ABackup

Author: Denis Gounelle

Making a backup of a hard drive would be a tedious affair if it were not for handy utilities like ABackup. It is very simple to use and allows programs to be compressed using the built-in routines or with your favourite memory masher.

Having selected the Backup function, the next thing to tell ABackup is which partition (or directory) of your drive to work with. This information can be entered directly into the requester, or by clicking on one of the displayed partitions. Aback displays a list of files found in the partition, allowing you to indicate which ones are to be backed up.

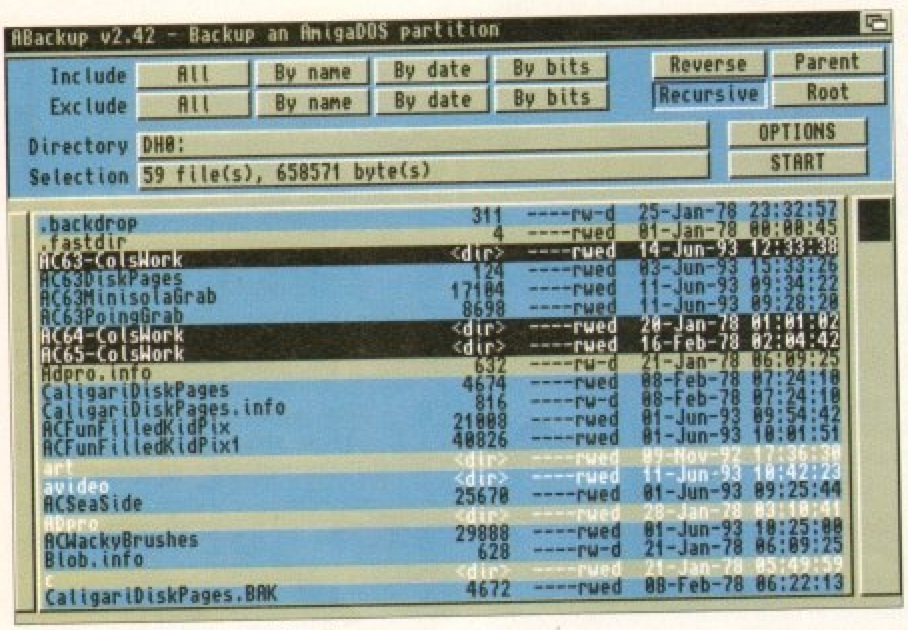
There are options to include (or exclude) files by name, date, or according to the protection bits. All files can be included in one go and it also possible to reverse the selection so that the highlighted ones are unhighlighted and visa versa.

To include sub-directories, the backup may be made recursive, and a particularly useful function is the ability to estimate the number of floppies and time required for the operation.

The same set of file selection functions are available for restoring partitions, plus options to restore file datestamps, links and the directory hierarchy. It is also possible to have files on your hard drive overwritten by those from the backup but, having said that, ABack can be instructed to only overwrite older versions or to ask for user confirmation.

So that you have a record of the backup procedure, a report may be generated and sent directly to the printer or to a file for future examination.

If you require more information about using this utility please read the documentation that accompanies it on the disk.



Backing up selected files and directions

Amos programming

The support files for the Amiga Insight Amos column are on the archived Caligari disk. Because we have crammed so much onto the CoverDisks there was insufficient room to include icons.

Think you can do better?

Want to be famous? We are always on the look-out for quality Amiga programs for the CoverDisk. If you think you have written something good enough for others to share and enjoy, please send it in and we'll have a look.

The *Amiga Computing* CoverDisk is used by thousands of Amiga owners every month in places all over the world from New Zealand to the USA, so if your submission finds its way onto the disk, you could be famous.

Please make sure that you list ALL library and other files necessary for the program to work. Feel free to design your own icons for programs that run from Workbench, but please don't make them too big.

If you ensure your program is as compatible as possible with a wide variety of Amigas, it will also stand a better chance of publication. We are especially interested in small programs whether they be games, utilities or whatever.

We are prepared to pay our current rates for original work which has not been distributed in any other way and which has not been put in the public domain.

If you wish your program to be released as shareware or freeware we will be happy to publish it, but would, of course, be happier if we had been given it first!

Your submission MUST be accompanied by the submissions form, a copy of it, or a signed declaration to the same effect. Please supply your full name, address and phone number.

Unfortunately we cannot undertake to return disks sent to us as the volume of submissions makes this an impractical exercise.

Post your submissions WITH A COPY OF THIS FORM to:
Colin Yarnall, Amiga Computing, CoverDisk Submissions,
Europa House, Adlington Park, Macclesfield SK10 4NP.

Name .... Age ....

Address ....

....

Daytime phone .... Evening phone ....

Submission name .... Submission size ....

Type of program: ☐ Game ☐ Utility ☐ Other ....

You must sign this declaration:

The material on this disk is mine. I didn't steal it from someone else. It hasn't been published before and I haven't submitted it elsewhere because I want *Amiga Computing* to publish it. I understand that by submitting my work to *Amiga Computing*, and signing the declaration, I am giving full copyright control to Europress Enterprise Ltd.

I understand that if my submission is bought by *Amiga Computing* I will be paid the current applicable rate. I know what copyright means and I will be responsible for any possible litigation arising by breach of it by Europress Publications Ltd as a result of using my submission.

Signed .... Date ....

The *Amiga Computing* CoverDisk is designed to be as simple to use as possible. Follow these instructions and you'll be up and running in no time!



New readers may have difficulties using our CoverDisk, so we have included this page to help you out.

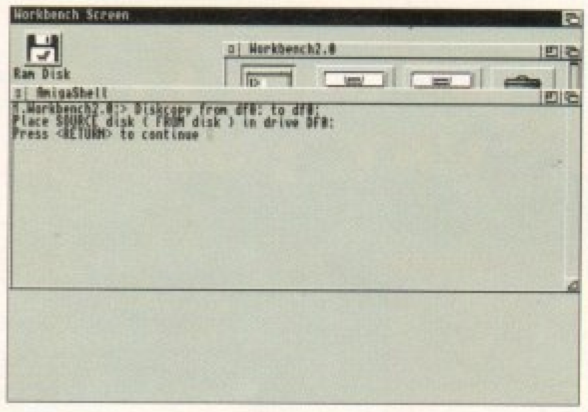
Below we explain how to copy files from one disk to another, how to copy the entire CoverDisk and how to de-archive programs. none of the first things you must do when get your CoverDisk is make a backup copy, then put the original CoverDisk away for safe keeping. As a rule you should also do this with the majority of your software collection.

How to make a backup

To copy the entire CoverDisk, load up your Workbench disk, then either click once on the CoverDisk icon and select Duplicate, or select Copy from the Workbench menu, or open CLI/Shell and type:

```
DISKCOPY FROM DF0: TO DF0:
```

When prompted, put your CoverDisk (the source disk) in df0: and be ready to replace it with your blank disk (the destination disk). Follow the Amiga's on-screen prompts until the disk copy is completed. Now put the original away in a safe place and use your backup.



Copying individual files

You might at some point want to copy a single program from a CoverDisk to your compilation, Workbench disk or even your hard drive.

To do this you'll need the COPY command. As most CoverDisk programs are stashed away in their own directories, the quickest way to copy a program is to copy the whole directory at once. Use the command:

```
COPY {directory} TO {newdisk} ALL
```

where {directory} is the full pathname of the directory you wish to copy, and {newdisk} is the name of the disk and directory into which it will be copied.

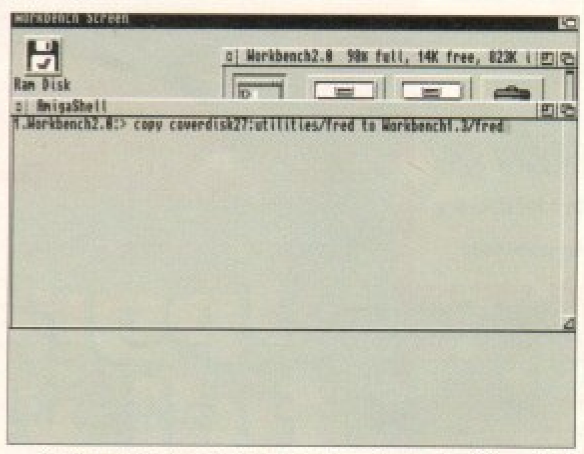
For example, if you wanted to copy a utility called FRED from CoverDisk 27's Utilities drawer to a directory called FRED on your Workbench disk, you'd type:

```
COPY COVERDISK27:UTILITIES/FRED TO WORKBENCH1.3/FRED ALL
```

Alternatively, you can click once on the FRED directory icon and drag it across to the new disk's window. This has the advantage of creating a new directory for you and copying the icon as well.

Once you have moved a particular program to where you require it you could experience some problems running the program. This is sometimes caused by the program not being able to find files which it needs to run.

A good example is the text files on the CoverDisk. These have been crunched using PowerPacker, so when you try to copy them to another disk and then try to read them you can't unless you have also copied the Powerpacker library into your LIBS drawer.



So if you have copied a program from the CoverDisk to your Work disk or hard drive make sure you also copy any other files the program requires, ie fonts, libraries, device drivers and Ccommands.

De-archiving

Occasionally we have so many programs to fit onto the CoverDisk that we have to archive them. Archiving is where we take the entire contents of a disk and compress them into one file which is much smaller, giving us space to fit more programs onto the disk.

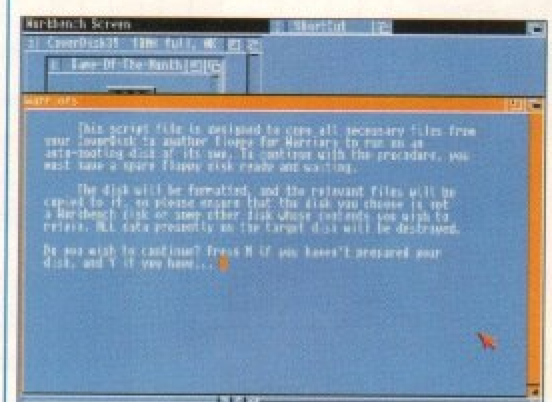
Dearchiving programs which are on the CoverDisk is a very simple task. If a program has been archived then you will need a blank disk to dearchive it onto.

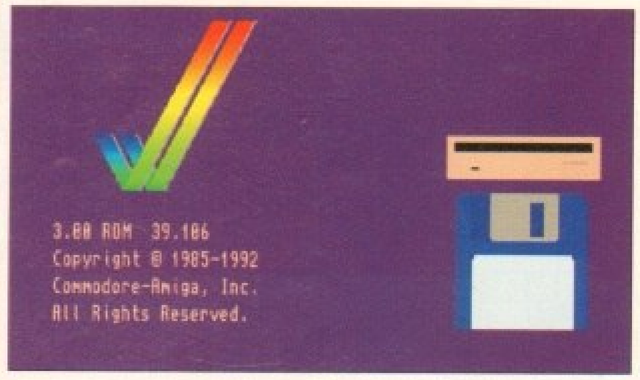
Say we have archived a program called FRED. You simply double click on FRED's icon, and will be asked if you have a blank disk ready to dearchive to. Type "y" or "n" accordingly.

Your computer will then copy the archived file into its memory and ask you to insert your blank disk. It will proceed to format the disk, and will then de-crunch the archived file onto your blank disk.

Once this has been done you can simply reboot your machine with the disk which contains the dearchived program on it and then use the program as instructed in the CoverDisk pages.

Note that if you have a Workbench 2 or upward machine you must boot with the CoverDisk write-enabled to perform the dearchiving process.





Workbench 3

If you have a Workbench 3 machine, don't worry – most if not all of the programs on the CoverDisk will work on your machines.

If the program is specifically designed to work with Workbench 3 then you may have to copy the program to your hard drive or Workbench disk using the process described earlier on this page.

We've got two offers you can't refuse...



Caligari has since its release been widely regarded as one of the most elegant modelling programs with an interface which is at the same time easy to use and very intuitive.

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Amiga Computing, September 1993.

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AMIGA COMPUTING Prize survey

Prizes worth over £3,000

The *AC* team have created this survey to ensure we have up to date information about our readers, so we can tailor the magazine to your needs and maintain its high standards.

It'll only take you a few minutes to complete, you'll find it on the CoverDisk, and you could easily be one of the lucky winners of over 500 individual prizes, with a total value of over £3,000!

The first ten readers to return their CoverDisk, with a completed survey, will receive a totally free 12-issue subscription, worth £39. The next 500 entries will each receive a voucher worth a whopping £5 redeemable against the cost of a full price subscription to *Amiga Computing*, this applies to all 500 entries

If you return your disk before October 31, 1993, you'll be entered into a draw to win our star prize, which is Vidi Amiga 24 Real Time, worth £350, from Rombo Productions.

Vidi Amiga 24 Real Time is the latest addition to Rombo's exciting new product range. With excellent picture resolution it captures true colour (16.7 million) images in real time from any video source. The photo-realistic image capture is complemented by a host of mind-blowing features, with complete control for most of them, including more than 30 image enhancement and manipulation items.

The renowned animation workstation has also gone under major improvements, now animating in all AGA modes. File support is extensive for both 12 and 24-bit file formats.



Vidi Amiga 24 (RT) features include:

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- *Swipe and Play animation workstation*
- *ILBM, ANIM, BMP, PCX, and TIFF support*
- *Image processing controls and effects*
- *PAL & NTSC versions available*

Vidi Amiga 24 Real Time is compatible with A500, A600, A1200, A1600, A2000, A3000, A4000, Workbench 1.3/2.0/3.0

Any personal details you provide will remain confidential. All the information we receive will be pooled together in order to gain an overall picture of Amiga Computing's reader's requirements and views on the magazine.

Please send your CoverDisk with a completed survey to:

Europress Enterprises Ltd FREEPOST (license SK502) Europa House, Adlington Park Macclesfield SK10 4YR

Use this as the address on the CoverDisk is incorrect

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WARNING

Due to the exchange rate, or manufacturer's changes or due to current RAM shortage, some prices may alter, either up or down, during the several weeks between going to press and the end of the month of issue. We would ask that, where possible, prices be confirmed by telephone before ordering.

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A Must for new users!
Microswitched joystick, "Get the Most from your Amiga" book, 10 Blank discs, 80 capacity lockable disc box, mouse mat, dust cover, Virus Killer.

A500+ and A600 come complete with mouse, modulator to connect to TV, or monitor lead as required, all cables, manuals, operating discs and utilities

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85		389.99	404.99		
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A4000/30 & 40

A4000/30: AGA Chip Set + 68030 processor, 68882 25/50 MHz co-processor option, 256,000 colours from 16.6M, scan doubling for flicker free display, Mouse, Amiga 3.5"/1.76 MB 3.5" drive, Hard Drive as below, Amiga DOS 3.0 system and utilities, **Gold Service on-site warranty**
A4000/40: As above, but featuring the blistering 68040 processor, with full floating point facilities.

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2 + 4 MB version comes with 2MB chip RAM + one 4MB chip of fast RAM, for on-board expansion to 16MB. We do not fit two x 2MB chips of fast RAM, which gives on-board expansion of only 8MB.

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Limited stocks end August

CD32 SOFTWARE

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£2

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Full Motion video add-on - for movies on CD
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Fun and educational for 2 to 11 years
(Some help may be required)

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Educational PD Pack Hobbyte 30 Easy	Simple games, or those with very easy levels. Even the youngest will be able to use some of these

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Plus II Microswitched Joystick, 80 cap. lockable disc box, Dust Cover

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10 "Hot List" Games The GREATEST!	See listing to the right for current HOT LIST, or phone for latest changes. Children's games available.
80 Prog. Hobbyte PD Greats Pack II 10 blank discs, mouse mat, 80 capacity	Includes top games like Battlecars, Star Trek, Computer Conflict, Megaball, dozens of arcade classics, board classics and 'shoot-em-ups', Utilities, Word Processor, Spreadsheet, Database + Desktop Publisher and the ultimate virus killers - a must for every Amiga owner!

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Any Two Hot List Titles

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Challenge Golf
Battleships classic board game
Graeme Souness Soccer
Neighbours
Frankenstein ‡ @
Captain Planet
Silkworm Helicopter 93% C
Edd the Duck ‡
Stack Up ‡
Lemmings 92% AF
Round the Bend ‡
Continental Circus - 8 race cir
92% AA
World Cricket
Bart Simpson
Spiderman/Cptn America ‡
Ice Hockey
Xenon - C+VG Game of the M
Blade Warrior - A Power, AF, A
superb reviews
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‡ PARTICULARLY SUITABLE CHILDREN (MAY NEED HE
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*DPIII needs 2MB for animation on HD

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Since CDTV, Commodore's ill-fated baptism in the CD market, pundits have looked forward to a fresh attempt at the use of superlative Amiga technology with the mass storage and multimedia benefits of compact disc. Some predicted CDTV2 to compete with CD-I, others warned that once bitten was quite enough.

Any lingering doubts about whether Commodore could pull off their second foray into this new consumer market were dispelled at the Science Museum in London when CD32 turned in a virtuoso performance, causing enough excitement to stir even grizzled survivors of the CDTV massacre to feel the faint spirit of enthusiasm rekindled.



By launching a 32-bit CD console based on AGA chips for less than £300, Commodore had silenced those who said it couldn't be done, convinced those who said it shouldn't be done, and wowed any waverers with a display of games and full-motion video (FMV) that sent jaws sagging from Fleet Street to Paramount Studios.

By the time this article is printed, thousands of high street shelves should be groaning under the weight of CD32 boxes as Commodore gear up production for the Christmas period.

Roughly 180,000 machines will find their way into the shops and mail order catalogues over the next two months, and it is this magazine's prediction that many games players will have to see only a short demonstration to prompt their twitching fingers in the direction of cheque book or credit card.

IN PRODUCTION

Again, by the time you read this article, many of the games we will look at should already be in production, and many more will appear between now and Christmas. Approximately 50 to 70 games, some old, some brand new, should pop out of the CD mastering machines over the next two month's if Commodore and the games companies can stick to their own schedules, so any Christmas morning spent with a CD32 should be engrossing enough for the big kiddies among us.

The hardware itself, despite its high-tech chips and CD drive, is encased in a near-black plastic casing designed, one would assume, by a drunken cubist.

Of dubious artistic appeal, the box sports few controls, with only the reset button, volume slider and stereo headphone socket in view.

Note the lack of an eject button. The flip-top CD has no locking mechanism, so it is easy to disturb the CD during play with predictable results. In addition, the reset button on our unit has a hair trigger, and more than once a game of Diggers has come to an end with either a nudge of the button or an accidental knock to the CD cover.

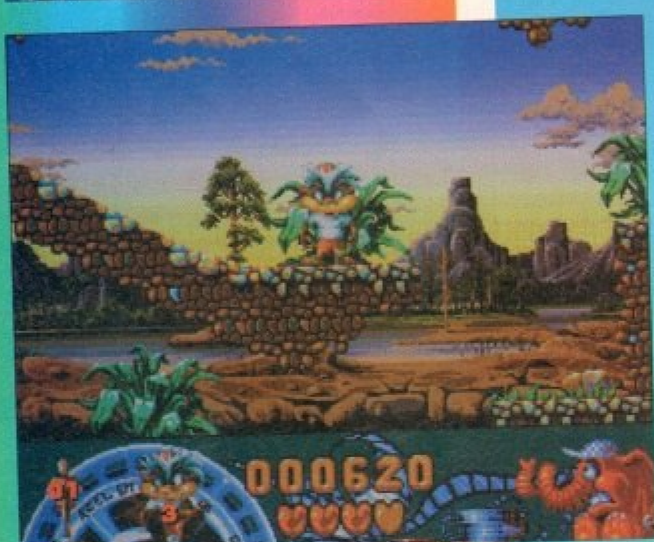
Build and packaging is very much of the consumer electronics variety, and it is clear from a first look at the unit that Commodore saved a few bob on the retail price by cutting the odd corner.

There's no tackiness involved, just a hint of the pile-'em-high, sell-'em-cheap manufacturing ethos which has seen Sega and Nintendo cut their prices to the bone.

Ports and interfaces are surprisingly numerous on this machine, and there are no fewer than three ways of sending CD32's video signal to the screen. Beside the usual composite video and R/F (TV) output, there is an S-VHS port to enable higher quality pictures on the more expensive TVs or monitors with an LCA input.

Commodore's 1084S monitor, for exam-

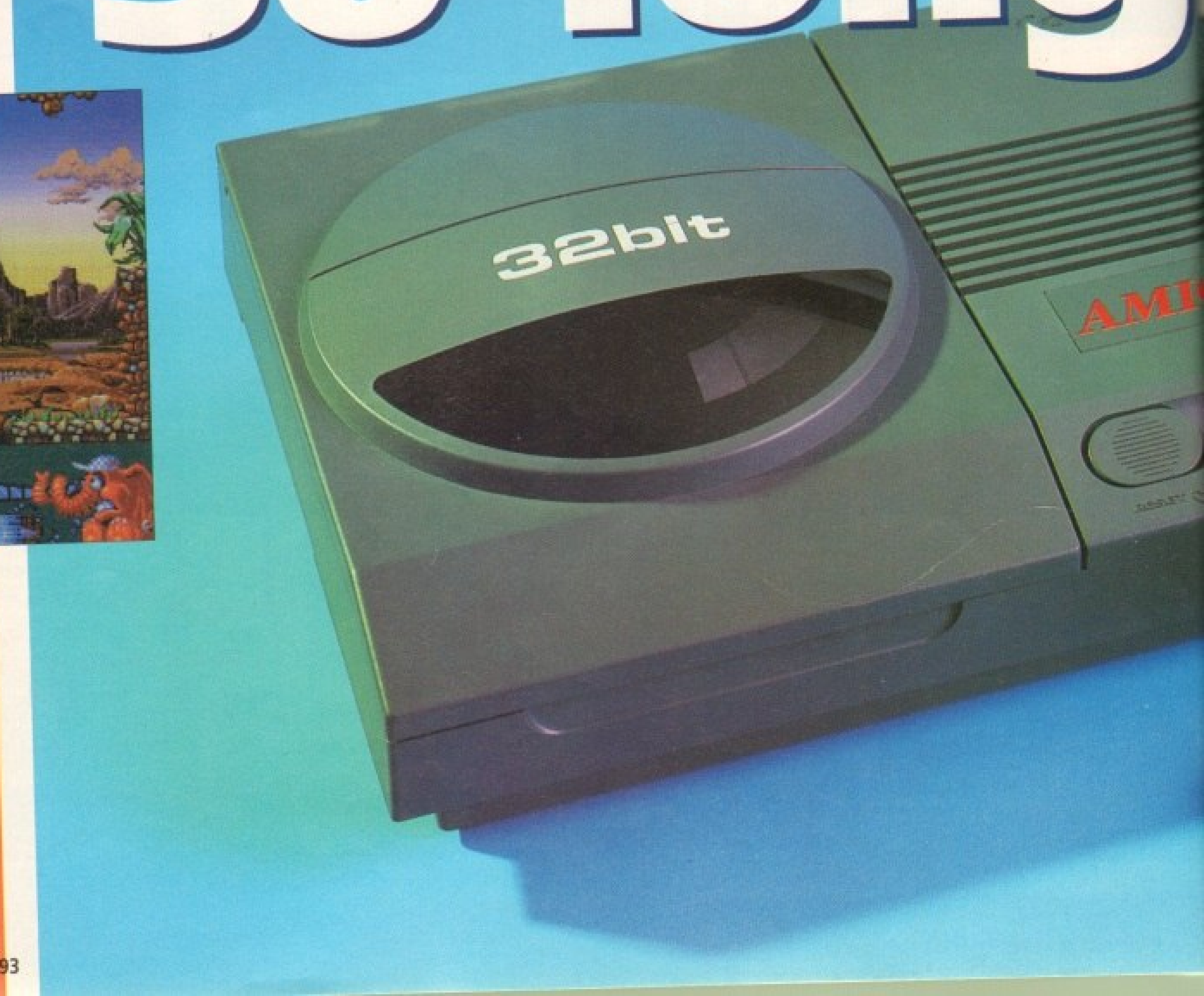






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The CD video revolution

It is also possible to play CD+Midi (if you can find one of these discs) or CD+Graphics, and a separate symbol appears on the control screen if either of these formats is used.

The widely used ISO 9660 standard is supported, so it should be possible for users to access disks of PC artwork or clip art (not that many games players will want to), but the most exciting development has to be the adoption of a world Video CD format.

Fully supported by CD32, Video CD is a format already common in professional karaoke circles for the mixing of video and music on a disc, and centres around the MPEG II chips found in CD32's FMV card.

The music industry is expected to jump in a very big way on the possibility of putting a hit album on a CD in full music video format. For music fans, the chance to play music videos with control over the order the tracks are played in and full CD quality sound will be too much to resist. Clearly, the future of the games industry is in CD and other mass storage products which allow the combination of superb music, video and video games in one consumer package.

The leisure opportunities are unparalleled and the level of fun we can all expect from this development is not to be understated. If Commodore can get the marketing right and the software boys and girls release enough good games, CD32 should be in the enviable position of coming in on the ground floor with a working FMV option, proven technology, and a wide user and programming base.

With the expected explosion as the music, film, and video game industries come together, CD32 is in a position to be boosted right into orbit.

ple, can accept S-VHS signals, and the CD32 supplied for our test was equipped with the appropriate lead. Stereo audio and R/F leads are also included, so quick gameplay is assured.

A welcome addition to the ports is the on/off switch, borrowed from the much loved C64 by the look of it, which sits on the rear panel between the power socket and the large interface slot.

Power is supplied via a PSU of the smaller variety rather than the bulky brick supplied with most A1200s, so the machine should be easy enough to move from room to room or house to house.

The interface slot, a 150-pin effort offering full access to all CD32 processor functions, takes up almost half the rear panel and is covered by a blanking plate. It is here that the FMV cartridge will sit once released, and here that third-party manufacturers will no doubt soon be attaching floppy drives and so on.

For the moment, Commodore are keeping quiet about their expansion plans for CD32, hoping naturally to get the thing out of the door and on the shelves before talking about what it can be turned into, but plans are afoot to give users the option of converting it to a computer using various add-ons.

Any A4000 keyboard can already be connected to the AUX port sitting beside the two joystick connectors on the left-hand side of the casing, and as the port doubles up as a high speed RS422 serial port, it is to be expected that someone will find another use for it.

Though unlikely that serious applications will find their way onto this machine, with its price point and imminent FMV capability you'd be mad not to predict that it will soon be appearing in the multimedia field.

EXPANSION

What is more intriguing is a hint that Commodore plan to add an expansion box, fitting the 150-pin slot, which would offer A1200 facilities in one fell swoop, presumably including the usual serial, parallel, and floppy ports, but it is doubtful whether this would prove popular with CD32 owners.

For the immediate future, it would seem a much more sensible policy to concentrate on the machine's excellent games playing possibilities than dilute the message with talk of boring old computers, which explains why, if Commodore have such long-term plans, they aren't telling anyone.

When turned on, CD32 at first displays a very colourful screen showing a spinning disc and logo, at which point the device simply waits until a CD is inserted. If this is a game CD, the system boots up, and if a music disc the audio control panel pops up.

Similar in design to CDTV's audio panel, the options on offer include all the usual controls found on a conventional CD player, including program function, shuffle, fast forward, rewind, pause, and so on.

Little spoken of so far, CD32's ace-in- ➤





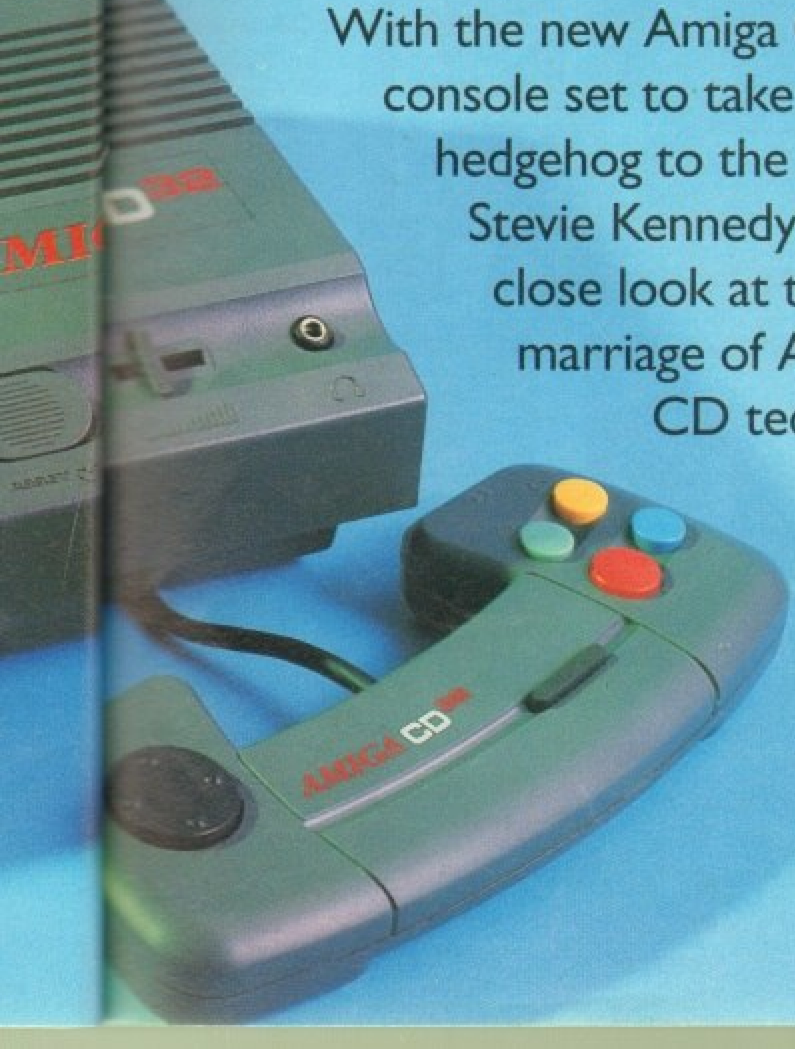






Bullfrog's Magic Carpet and Creation

gSonic



With the new Amiga CD32 console set to take the hedgehog to the cleaners, Stevie Kennedy takes a close look at the marriage of AGA and CD technology

➤

the-hole might easily turn out to be its Planar chip. Designed to turn "chunky pixels" – the name given to pixels under byte per pixel graphics – into the Amiga's more usual bitplane graphics at high speed, the Planar chip makes it possible for games houses to convert PC games to the Amiga with ease.

COMPLEX CD32

Byte per pixel graphics are so-called because each pixel on screen is held in memory as a single byte which holds the pixel's colour information. The Amiga utilises bitplane graphics, which means that a pixel is stored in a much more complex way as part of a bitplane.

In effect, it takes one write operation to a single memory address to change the colour of a chunky pixel as opposed to the eight different memory addresses it takes to change a pixel stored in bitplane mode.

Games such as X-Wing, Strike Commander and Ultima Underworld – all PC-only games at the moment – which make extensive use of huge pseudo sprites and texture mapping would not normally find their way onto a machine which uses bitplane graphics. With the Planar chip, this is now easy as pie.

Storing the chunky pixels in memory then converting them at high speed before passing them on for screen display, the Planar chip enables PC programmers to forget about complex graphics trickery when porting a game and get on with the task of recoding the game's main program.

As this is often written in the highly portable C language, we should soon see a steady trickle of high quality PC conversions as the user base of CD32 owners grows. As Bullfrog's Peter Molyneux said when he first saw the Planar chip's inclusion in CD32: "Thank Christ for that!"

> *'With the planar chip, converting PC games is easy as pie'*

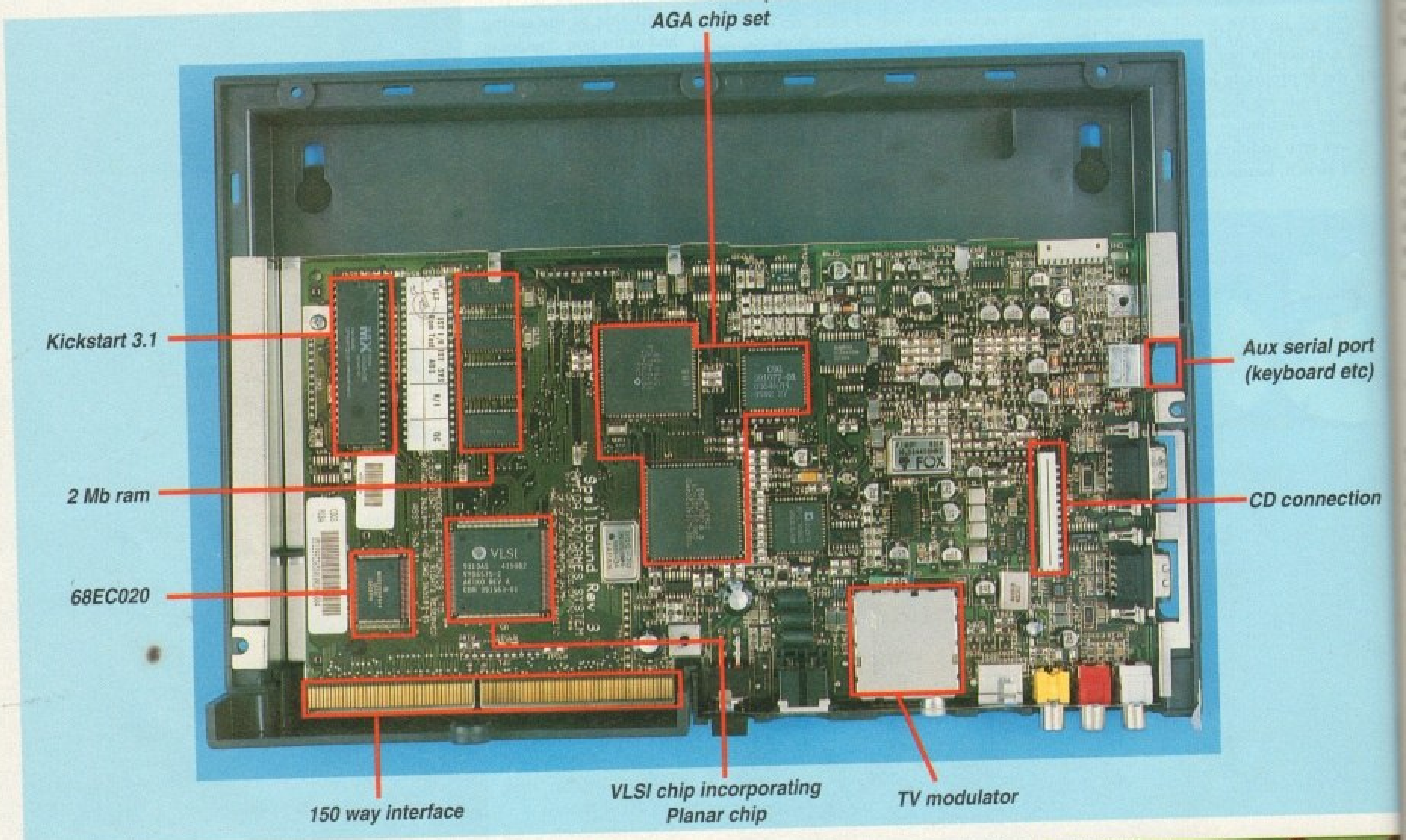
It is perhaps ironic that one of CD32's most appealing features, from the developer's point of view at least, could be its ability to use old-fashioned graphics techniques.

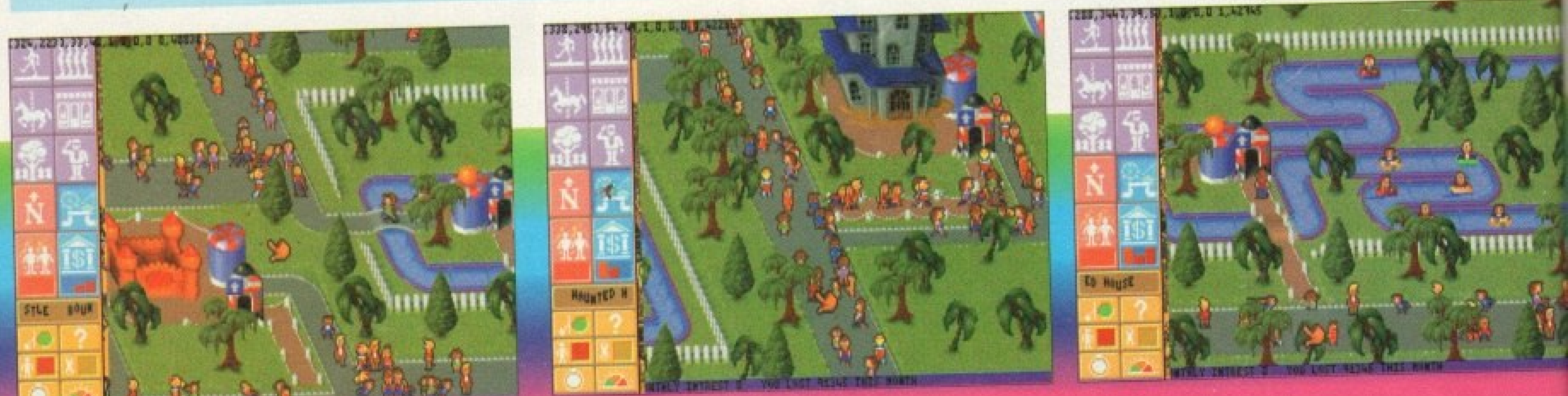
Commodore, in response to user concerns, have made announcements to the effect that CD32-compatible drives are being developed for both the A1200 and A4000. However, as more emerges about just exactly what is inside the new machine, some of us are beginning to wonder.

Two main obstacles appear to stand in the way of a straightforward bolt-on CD drive for the AGA machines. First, the CD-specific Kickstart extensions.

Packed into the CD32's Kickstart 3.1 chip are several new libraries and exec functions which the A1200 does not share. These include NonVolatile.lib for the built-in 1k of flash RAM in which game high scores are stored, CDFileSystem for accessing files on the disc itself, and CD.device offering low level access to the drive for control of speed and so on.

There is no reason to believe these can- not be included in a chip inside any add-on drive, but the fact that they have to be added should be warning enough that





Bullfrog's Theme Park game is well into it's development plan

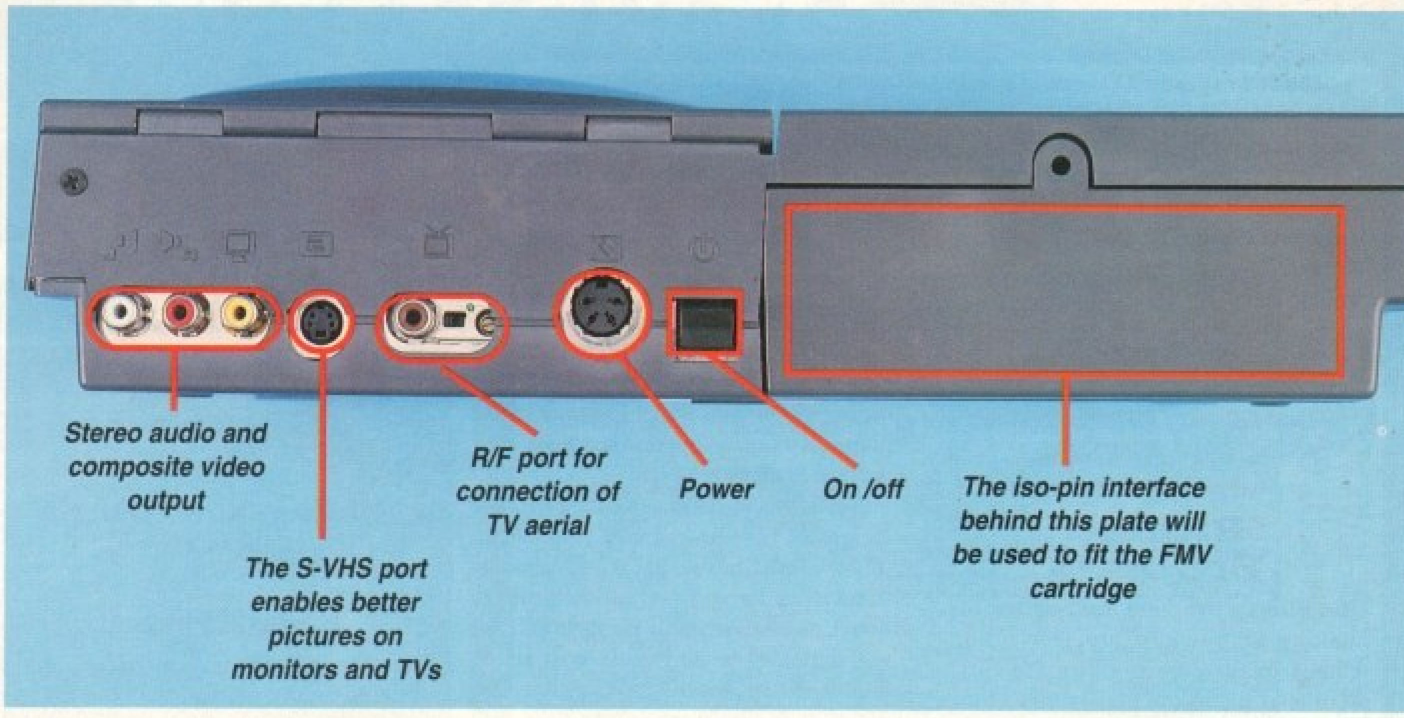
making an A1200 CD32 compatible isn't just a matter of slapping on a CD drive.

A second obstacle would appear to be the Planar chip, discussed elsewhere in this article. Without this chip, many prospective CD32 games would not function, and it is not present on the A1200 motherboard. Again, something the Commodore engineers can get around, but every additional component adds to the price of an add-on, and if the drive is much more than £150 (with £199 as the absolute viable limit), it might struggle in the A1200 market. Why buy a CD drive for two-thirds the price of the whole CD32?

CONTROL PAD

Often the butt of jokes, and generally considered an abject failure, the control pad for Commodore's CDTV was truly awful. Tiny buttons crammed close together on a unit which was awkward to hold and difficult to manipulate gave most users callouses, headaches, or both. CD32's controller (or joypad as they're normally termed) is much better.

Sporting seven buttons and a four-way direction pad, the joypad has enough options for most types of games, and most double up to control the audio CD side of things. In prolonged use, the shape of the controller causes problems in that it rubs the palms of the hands uncomfortably, but in general it is a much better unit than that supplied with either the Sega or Nintendo consoles.



What the authors say

By Phil South

So, the speculation is over. The new Amiga is a CD-based game console, although you didn't have to be a mind reader to guess that. Rumours saying as much have been flying about the industry for the last year or so.

Little did we know however that it would be based on the 1200, although thinking about it this it does seem a good (or at least optimum) choice under the circumstances.

Why? Everyone in the software business agrees, and we've spoken to just about everyone on your behalf, that the machine is sufficiently state-of-the-art while still being cheap enough for anyone to buy.

Of course Commodore could have put an 040 in it and have MPEG built-in rather than having it as an add-on, but the machine would have cost about £700-£1,000, which is too darn expensive.

Software people like the CD32 for many reasons – its double speed drive, its price (although most said this would come down just like all Amigas previously) but what they liked most was not that it is a console, but that it's an Amiga.

The Amiga, unlike both the leading game consoles, is an open platform which anyone can develop for. You don't need permission or a lot of money to make games for it, just an idea and the ability to code in some language.

After that all you need is the ability to get your code onto a CD. One of the things that people do like is the idea of big games with no disk swapping, no installation, and the fact that no matter how big your program you still only have one disk to duplicate.

Then there's the new MPEG capability, the full motion video adaptor due in the shops later in the year. Will anyone be developing for that?

The reaction was mixed, with some people saying that the MPEG and software side shouldn't mix, and they should be kept separate.

But basically software people like the CD32 because it's competitive. The more platforms, within reason, the healthier the market is. It promotes competition and allows more people to put things into the business.

If you reduce the number of companies you reduce the people who control what's happening in the market. On the whole everyone thinks Commodore have made the right choice.

All that remains is for the public to buy the thing in quantity and they've got it sussed. But what do the people in the know, the software producers, think?

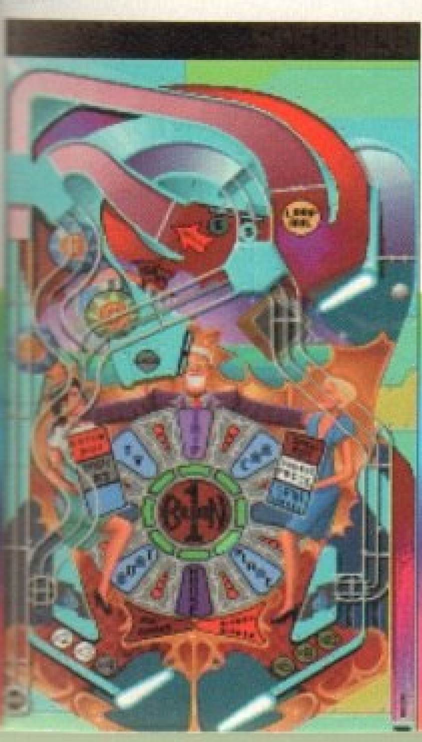
Gremlin Graphics

Gremlin's James North Hearn was in no doubt what he thought about it. "We really want the machine to succeed and we're willing to support it with product."

Have they got new stuff ready to go? "Producing CD product takes time. We're aiming to have a few products out, Zool and couple of others. They'll be good products, but they won't represent true CD capability. You're really looking at next year when it starts coming through like that."

What impressed them most about the tech specs of the new machine? "To Commodore's credit they came to us and we literally got to write down what we wanted.

"There's things we asked for that weren't implemented due to cost, but I think they got the basics right. FMV will be nice when that comes along, but that's





New tables and lots more colours for Pinball Fantasies





not happening at this moment.

"The twin speed CD is really good, and I think that's a great improvement. Quad speed would have been nicer."

And the price? "I think the price is good, again it would have been nice if it had been £199 or £250. But if it had come out at £250 or £199 we'd all be saying wouldn't it be nice at £150!"

Checklist: Zool, Zool 2, Nigel Mansell, Heroes Quest, Litil Divil, Premier Manager.

Bitmap Brothers

The Bitmap Brothers are famous for making graphically superior action games. What does the Bitmaps' Eric Matthews see as the possibilities of the new engine?

"We're working our way through the A1200 version of The Chaos Engine at the moment. Obviously we wanted to do a 256-colour version, rather than a 16 or 32-colour version like the original, and it looks very nice."

Any new bits and bobs we should know about? "We're doing an animated intro which would just have taken up too many disks if we'd have done it on the original one, it's a nice animated intro with a voice over on it.

"There are going to be things which make it better than the floppy version, it isn't going to be as appropriate as, say, graphic adventures."

Why aren't the capabilities of the machine suited to action games? What would be best for it? "Renegade are publishing this game Flight of the Amazon Queen in the graphic adventure style, a Lucasfilm or Sierra-type product.

"Now that is immediately attractive for the CD32 because you don't have all the hassle of disk swapping, also you do have the enhanced 256-colour mode so in that way you can see it's more obviously the benefits of compact disc than the floppy."

Checklist: Sensible Soccer, Flight of the Amazon Queen, Chaos Engine.

Ocean

You'd expect one of the biggest and oldest software houses to be in at the start of a new format, and as Ocean's Simon Alty explained, this was true. "The truth of the matter is that we hope it succeeds, and we're very much behind it."

But what about software? Well, Jurassic Park could have figured very prominently in the CD32's future, but for two things. "One is we haven't tied up the deal yet with Universal, secondly it's timing. There will definitely be no bundle, contrary to popular belief. We'd love to do one. But it's all about who owns 3DO."

A little delving reveals that Steven Spielberg, via MCA/Universal, owns a share in the new CD machine company. *C'est la vie.*

Checklist: Sleepwalker, TFX, International Open Golf, Inferno, Jurassic Park (but don't hold your breath)

US Gold

Not being a firm to jump without first checking the height of the drop, US Gold are playing things close to their chest. Bridget Hurst filled us in.

"We're not doing anything for it immediately, there's nothing that we're actually announcing. An obvious one would be Flashback, we're doing that on all formats. We're also looking at what could be done as far as back catalogue titles are concerned."

They do like the CD32 though, right? "The machine seems to have some good capabilities, plus the fact that Commodore are going to bring out all of the extras as well for the 1200, the CD drive, and then bring out a keyboard to link up to the CD player and that sort of thing."

> *'We hope it succeeds... we're very much behind it'*

Checklist: Flashback, plus other titles to follow

Bullfrog

Now then Bullfrog, you know a good machine when you see one. What do you think? "It's definitely a step forward and they've obviously listened to developers a little bit which is a big change for them.

"We're doing three products on it currently, and we'll continue to support it providing those three products do reasonably well," said Bullfrog's Peter Molyneux.

Any qualms about the spec? "It doesn't have enough RAM, and it's still a little bit slow. For us the really brilliant thing is it has this "planar chip" in it, which means all the stuff we do for the PC is now possible to do on that machine."

"That means if you're doing any 3D stuff and texture mapping stuff, and we're doing a lot of it, which is really easy on the PC, it all becomes possible on the Amiga.

"It's not a revolutionary chip or anything, it does something really simple, but what it does do it does well and it means that we can consider products we wouldn't normally do on that machine."

Checklist: Syndicate, Theme Park, Magic Carpet, Biosphere

Virgin

Virgin's John Norledge was enthusiastic, but oddly cautious about spilling too many software beans. "We like the machine, we think it has quite a big future, especially in Europe.

"On the software side we're developing a CD game, rather than a conversion of a standard Amiga floppy game, the exact title's not been announced yet, but we're saving that for the European Computer Trade Show in September."

Any hints? Like would you be talking about Dune by any chance, a version like the absolute stonker on the CD-ROM for the PC?

"As you know Virgin have released several CD games on the PC format and therefore we have a lot of good data and good programs that we'll be looking at.

"Any of our current titles in development have the potential of being moved over to CD32, especially as we can now use the same graphic data as we used for the PC."

Checklist: Dune CD ROM, Musicolour, North Polar Expedition

Best of the rest

Acclaim
Mortal Kombat

Flairsoft
Oscar, Whale's Voyage, 1869

Grandslam
Nick Faldo Golf

Krisalis
Sabre Team, Soccer Kid, Manchester Utd 2

Maxis
Sim City

MicroProse
Civilisation, Gunship 2000, B17 Flying Fortress, Legacy

Mindscape
Alfred Chicken, Liberation

Sachs Entertainment
Defender Of The Crown 2

21st Century
Pinball Fantasies, Pinball Illusions

Thalion
Lionheart

Titus
Battlestorm, Prehistoric

Psygnosis

Mark Blewit, on behalf of the Lemmings meisters, couldn't resist blowing the old Psygnosis trumpet: "We've got lots of film titles with the Sony deal going through. Sooooo you could speculate that Dracula would be done. I think it will all boil down to how well the Microcosm does."

Will they be using the new technology in the machine, like MPEG for example?

"I would say that we have traditionally always developed machines to the full. What we did with Shadow of the Beast, graphically, was revolutionary at the time.

"Looking at what we're doing in other areas such as 3DO and FM Towns in Japan, what we've done to push those machines, it is reasonable to say that Psygnosis will push the machine to its limit."

Checklist: Microcosm, Lemmings (CDTV version), Dracula

Millennium

The James Pond authors are keen to show they are sticking their necks out for the CD32, as Keith Smith pointed out. "The first CD32 product that we have is Diggers, which is a mining strategy/adventure game.

"It's the first finished game developed specifically for CD32, which is quite important to us, because they've got versions of ported games out there.



Millennium's debut CD32 product

"It's not an action game with lots of things happening, it's a quite game specifically developed for one player, really."

Generally Millennium are very happy with the spec and possibilities of the machine. "It's a very nice piece of kit to have, and I think it certainly points the way to the birth of the complete home entertainment system.

"You can trash your console, you can trash your CD player, and buy one of these pieces of kit for £300. I think anyone who's thinking of chopping in their kit for something new will have to consider this as an option."

Checklist: Diggers, James Pond 2, James Pond 3, Daughters Of Serpent.

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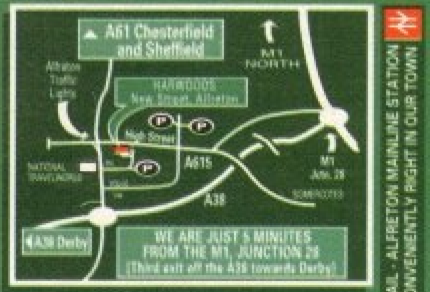
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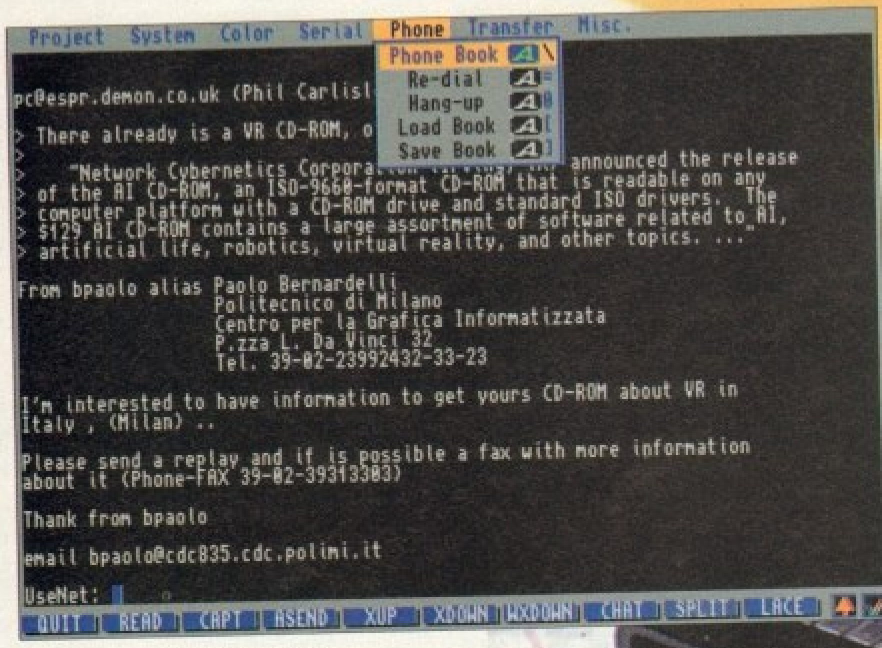
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Access! takes us to the UseNet system



On the

Amiga Computing's communications columnist Phil South explains why we should all have a modem, and how the diminutive boxes can be used

When someone tells you to get into comms it isn't an invitation to slip into some tight-fitting woolly pants. No sir, it's a world of communications.

This is the practice of using your Amiga with a modem to link up to another computer down a domestic phone line. It's something which a lot of people do every day and don't even think about it. In fact once you're set up you can do comms as easily as you would make a phone call.

All you need to get started is your Amiga and a phone – which you already have, a serial cable, a piece of terminal software – and a modem.

Modems are bits of hardware which you link to the Amiga via the serial connector at the back. You do this with a special serial cable that you would get from your friendly local computer shop.

The serial cable is designed for modem use, and not what they call a null modem cable which is differently wired internally for connecting two computers in the same room directly via the serial port, for machine-to-machine direct transfers or for playing two-player/two-computer direct link games. Once the phone is added to the equation, you're up and running – the computer is connected to the modem, the modem is connected to the phone socket.

LINKING UP

So where do you plug your phone? Into the modem of course. There is a pass-through on the modem, allowing you to use your phone normally when you're not using the modem, but allowing the modem to remain connected to the phone line.

Once you're all connected up to a phone line, the modem is controlled by a piece of software called a terminal program. This is used to dial up bulletin boards and conferencing systems.

The program usually stores phone numbers of the boards you use on a regular basis, so you can just dial them up by selecting them from a menu rather than having to dial the numbers manually.

A bulletin board system, or BBS, is a

Using comms software

Terminal software is easy to come by, and almost all the best programs are in the public domain. Term, NComm, AZComm and JRComm are names which spring to mind, and almost all of these have appeared on *AC* CoverDisks from time to time.

I use NCOMM because I find it to be the most useful, simplest to use, and the most powerful. Logging on to your favourite bulletin board is simple. You just spend a few minutes setting up your phone book, a list of BBSs and their numbers and settings, and save this to disk.

After you've done that you only have to select the name from a menu list and then the modem automatically dials up your BBS and allows you to log on.

You must have a name and password to prevent other people logging on as you – especially useful when you are paying for the service on the BBS!

Each session can be saved as a text file, so you can go back and re-read anything you read on the BBS, and any messages or electronic mail for you can be stored on disk or even printed out. Also any files which you get from the BBS, any programs for the Amiga which you got from the board, can be saved to disk for use.

You could download NCOMM from a BBS, but of course you'd need a copy of NComm to do it. Best get it from a PD software house then.

Before we launch you into the world of comms, here are some important points to take note of. On most BBSs there will be message areas or conference topics where you can leave messages to other users.

Treat other board users with respect and they'll welcome you with open arms. The users are like members of a private club, so bear in mind at all times that you are a new member. Announce your presence and wait to be invited in.

As in real life situations, listen for a while before you start to talk. Until you talk nobody will know you're there, but keep quiet until you know what you're talking about.

These again, don't take this too far and be silent forever. Someone who hangs about but doesn't speak is called a "lurker". Be alert, but don't be a lurk.

Another important point. Once you've looked around the system and want to leave, remember to log off properly. You can cause all sorts of problems for the sysops (system operator if you just turn your computer off when you are online.

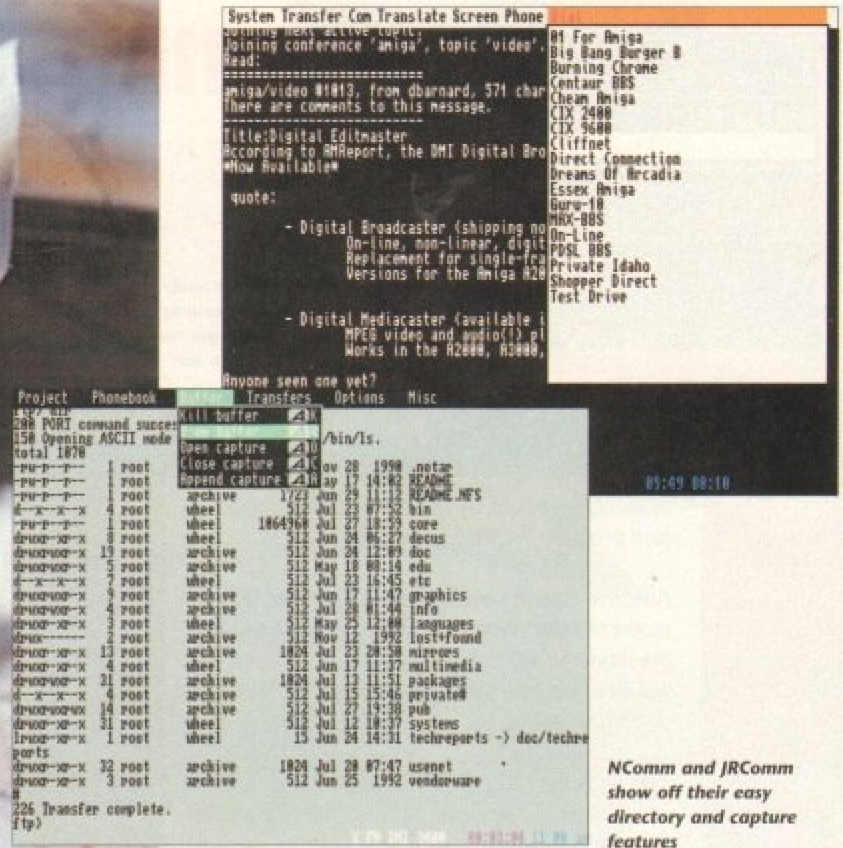
You might suffer from power cuts or similar acts of god, but don't do it deliberately. Leave the system intact for the next user to enjoy.

And don't just download a load of software and then bog off again. The practice of taking software but not contributing anything is called "troughing" or graphically "leeching", and it's generally not appreciated.

If you find a nice file somewhere in your adventures across the Net that you'd like to share, check if it's on the system first and then upload it.

If you at least upload one file for every one or two that you download then that's something. If you contribute more than you take, there will be place for you in BBS heaven.





NComm and JRComm show off their easy directory and capture features

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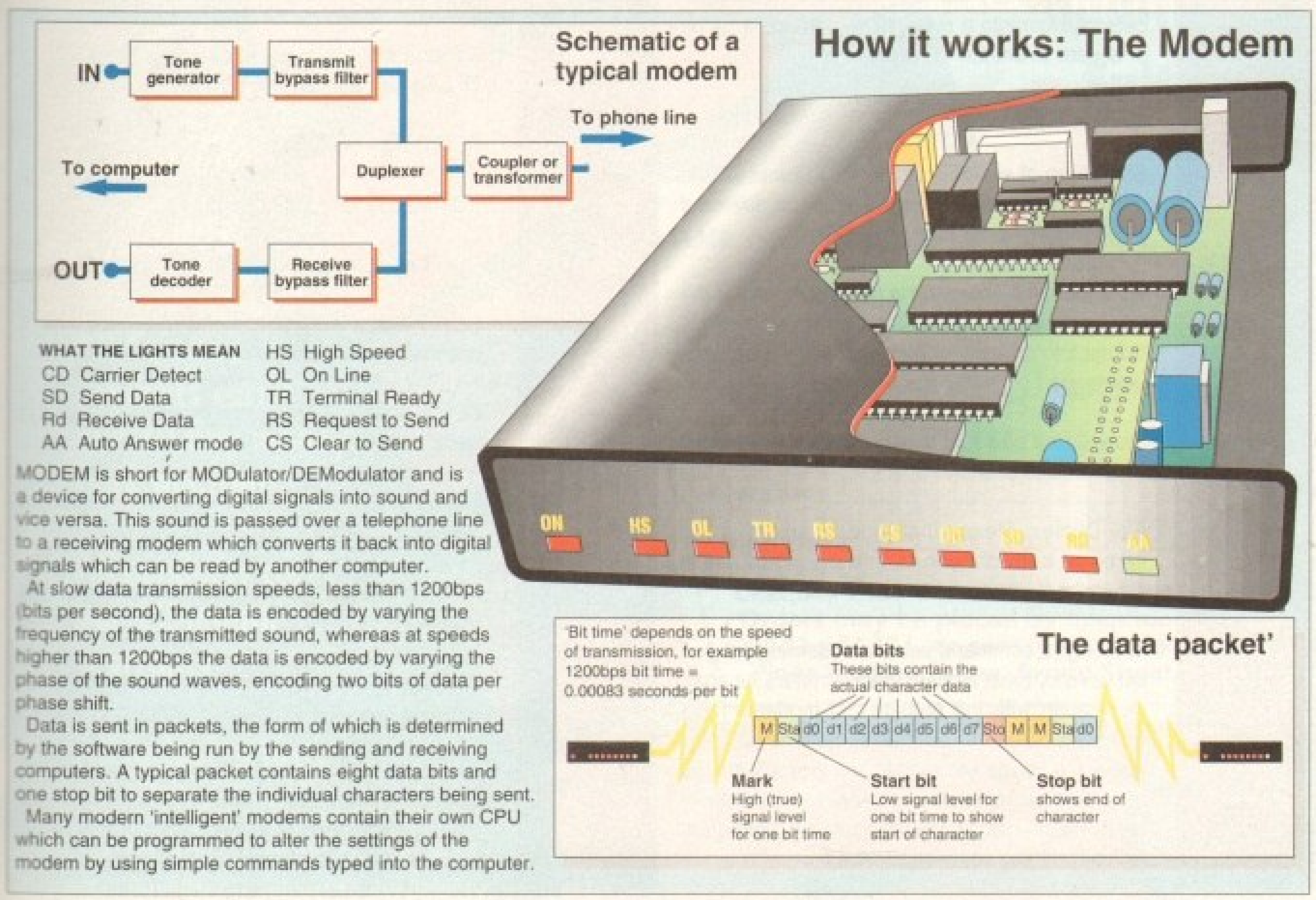
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computer which uses a modem just like yours to answer incoming calls from other modem users, and once online a special host program (similar to the terminal program) allows users to post messages to everyone on the system, send electronic mail within or outside the system and even upload or download files to and from the system to your machine. It's a little electronic world which you can enter and inhabit.

The sort of modem you should buy depends upon your needs and your means. If you only intend logging on to a BBS very infrequently, then spending a lot of money on a modem isn't really going to be necessary.

If however you think you're going to be a complete comms nut or are going to use your modem for work, then the fastest modem you can afford will be the order of the day.

Modems come in different speeds, ➤



WHAT THE LIGHTS MEAN
CD Carrier Detect
SD Send Data
Rd Receive Data
AA Auto Answer mode
HS High Speed
OL On Line
TR Terminal Ready
RS Request to Send
CS Clear to Send

MODEM is short for MODulator/DEModulator and is a device for converting digital signals into sound and vice versa. This sound is passed over a telephone line to a receiving modem which converts it back into digital signals which can be read by another computer.

At slow data transmission speeds, less than 1200bps (bits per second), the data is encoded by varying the frequency of the transmitted sound, whereas at speeds higher than 1200bps the data is encoded by varying the phase of the sound waves, encoding two bits of data per phase shift.

Data is sent in packets, the form of which is determined by the software being run by the sending and receiving computers. A typical packet contains eight data bits and one stop bit to separate the individual characters being sent.

Many modern 'intelligent' modems contain their own CPU which can be programmed to alter the settings of the modem by using simple commands typed into the computer.

Puzzling protocols

If you want to send or receive files from a host computer, you need to know about protocols like XModem, YModem, ZModem, and even JModem!

These are styles of transfer protocol used by host computers to send and receive files from you, the remote terminal. If you don't have the right protocol set on your machine the transfer will not take place.

The need for protocols arises when you touch on the subject of "line noise". The signal to and from your computer via the phone link is sound, and so the kind of crackles you get on the phone line can affect the signal.

This doesn't happen as often as it did back in the old days now that most exchanges are digital, but it does occur occasionaly. Transfer protocols ensure that the file that left the host is the file that reaches you, so each bit of data that is sent is given a checksum. If it doesn't match at your end, the data is sent again.

The chief methods of error correction are ZModem, YModem and XModem, although there are packets of others. Use ZModem and you won't go far wrong.

As far as setting up your modem goes, read the instructions which come with it and if in any doubt don't change anything or alter any settings unless you understand.

SETTINGS

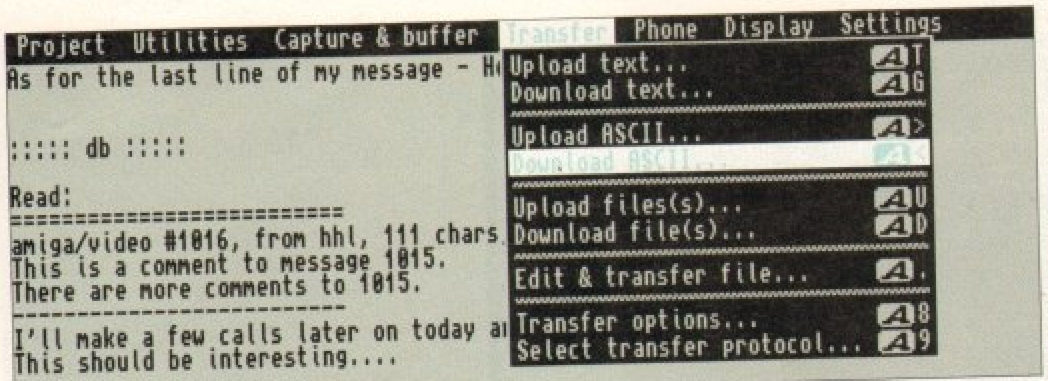
I've never understood the thought process of some people when they first start using computers; it seems they think that people who use computers have strange precognitive powers that enable them to guess how things work.

So when they buy the computer they just type things into the command line hoping that one or two of them will work

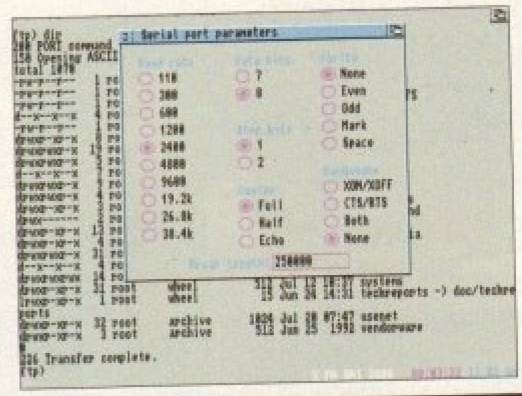
As we all know this is not how it's done, so why do the same thing with comms? Opening configuration screens and randomly changing settings are the comms equivalent of typing in HELLO WORLD at the CLI prompt. Just use the modem out of the box and it should work fine.

The factory presets are usually spot on, and this goes double for Supra modems, which have very clear instructions, and very intelligent factory settings. Both the Supras I use have never been altered since I got them.

One thing you do have to change, as it is probably been reset by you or a program, is the serial pref in your Amiga. Use the serial program in your Prefs folder to set your serial port to twice the speed of your modem, so if it's 2,400 set 4,800. This makes sure that the data travelling from the modem to your computer isn't slowing up the process or causing a data bottleneck, and going at the fastest speed it can manage.



Menus make most comms packages very easy to use



JRComm's daunting but helpful serial prefs requester

measured in "baud" which is comms-speak for bits per second. Speeds you will probably see mentioned are 1,200, 2,400, 4,800, 9,600, 14,400 or even HST.

It is a good idea to get the fastest modem you can afford, although if you're feeling a bit hard up you could use a 2,400 or 4,800 model, as this is the best balance of price/performance, and 2,400s can be picked up for as little as £50.

The reason that the fastest modem is the best is the simple fact that the more time you spend on the phone line the more expensive the hobby becomes. Faster transfer rates mean less time online and more money in your pocket.

Supra make a range of very good modems for Amiga, and their products would be a good place to start looking. Some feature MNP 5 data compression, which enables you to double the effective speed of your modem use. On a 2,400 modem this means that you can download files at close to 480 characters per second.

Files which are already compressed (archived using ARC, LHARC or similar, or even JPEG or GIF files) slow down, so trying to compress them again does nothing. This means that although the compressed files are smaller, they transfer slower. So if you're getting text files, you might as well transfer them un-archived.

FAX OPTION

If you have a modem with MNP 5, set your terminal software to twice the speed it should be to allow the fastest possible transfers. If your modem doesn't allow compression then it has to be set to the correct speed – the Supra V32bis Fax Modem for example.

This model offers V.32bis or 14,400bps as its top speed. It is totally downwardly compatible with the slower baud rates, offers error correction as standard and is Hayes compatible. It also has fax facilities built in for both sending and receiving.

It will answer the phone and decide if the caller is a fax machine or a modem and deal with it accordingly. The unit costs £269.

Supra also do the Supra Fax Modem at about £139, but this doesn't offer the higher speeds for modem use, just for fax. I'll be telling you more about this and other modems when I do the big Modem Supertest next issue.

Jargon busters

archive	Files compressed by an archiving or compression program like ARC.
ASL	Adaptive Speed Levelling. An option that Courier modems offer. When the line noise gets too bad the modems will reduce speed as in fallback, but will increase the speed back again if the line condition gets better.
BABT	This indicates that BT have tested the modem and passed. They have put a stamp of approval on it and charged the manufacturer a lot of money for doing so.
baud	(say it like "maud" or "board") The speed modems communicate with computers and each other.
BBS	Bulletin Board System.
BPS	Bits per second.
CCITT	Committee Consultant International Telephone and Telegraph. A European group that set standards to ensure compatibility. (See V21-43 below).
CPS	Characters Per Second.
doorway	Also called Gateway. Not a supermarket but a sort of imaginary doorway from the main computer system into a subsystem, perhaps a game or access to another computer system.
download	Transfer a file from the host machine to yours.
email	Short form of electronic mail, a service similar to ordinary mail except the messages are delivered electronically rather than physically.
fallback	Most modems now have a fallback option. If the line has a lot of noise or crackle, the modem will fall back to a slower speed and keep falling back until a good connection is possible.
Fax	Some of the newer and faster modems now have FAX facilities built-in.
FD	Full Duplex. Means that modem speed is the same in both directions and does not use a slower back channel.
Hayes	The Hayes command set is an international one set used by most modem manufacturers for communication with the modem. So modems have an extended set of commands that are over and above the Hayes commands, but they will always have those commands in common. If the modem is not Hayes compatible then you will have great difficulty getting software to drive it.
HST	High Speed Technology – a term created by US Robotics Corp to describe their new range of faster modems, usually of 9,600 baud and above.
host	The host computer, a machine running a BBS that you dial up.
MNP	Microcom Networking Protocol. Special error checking protocol which protects the integrity of the data sent down the line and also offers a means to compress the data being sent for better transfer speeds.
modem	MOdulator/DEModulator. A modem is used to take digital computer signals and convert them to audio tone signals for transfer via the phone lines. Able to be converted back to digital signals for the computer at the other end using another modem.
protocol	Modems will handshake when they first meet. When one modem calls another, they exchange some basic information, making sure they both have a common speed they can communicate at. They will agree to a protocol for exchanging data.
sysop	Short for system operator, the person who owns a host computer and the BBS software which runs on it.
upload	To send a file from your home system to a host. This file can then be downloaded by others.
V21	CCITT code for 300bps FD.
V22	CCITT code for 1,200bps FD.
V22bis	CCITT code for 2,400bps FD.
V23	CCITT code for 1,200bps with a 75bps back channel. Usually used for Viewtext systems.
V32	CCITT code for 9,600bps FD with 4,800bps fall back.
V32bis	CCITT code for 14,400bps FD with 1,200bps, 4,800bps, 7,200bps, 9,600bps fall back
V42	CCITT code for V32 with error correction based on LAPM protocol.
V42bis	CCITT code for V32 with data compression used with V42 and MNP error correction.
Viewdata	An outdated form of BBS which never really caught on based on a 1,200/75 baud process. Uses graphics similar to teletext on the TV. Most BBS are made up of scrolling Ascii text.

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It's a

Once the initial excitement of using a fast storage medium instead of floppies for the first time has subsided, the poor old hard drive so quickly fades into the background that it is easy to forget what using floppies was like. Let's recap, shall we?

Floppies are the most infuriating, stubborn, pig-headed, useless, rotten, nasty little 3.5in terrorists this side of the PLO, and using them as one's prime method of storage is tantamount to a long drawn out suicide attempt. There – got it off my chest.

For all our readers who wish to escape Stalagluft Floppy, and who might be considering a hard drive this Christmas or in the near future, there are three main questions to be asked before any money changes hands:

- *How much money can I spend?*
- *Will it do the job for me?*
- *What about expansion?*

Spending limits will vary from buyer to buyer, but the basic premise that a hard drive must be chosen with its job and future expansion plans in mind stands whether the user is after a 20Mb drive to store Monkey Island 2, or a 240Mb SCSI-2 drive for virtual memory and graphics processing.

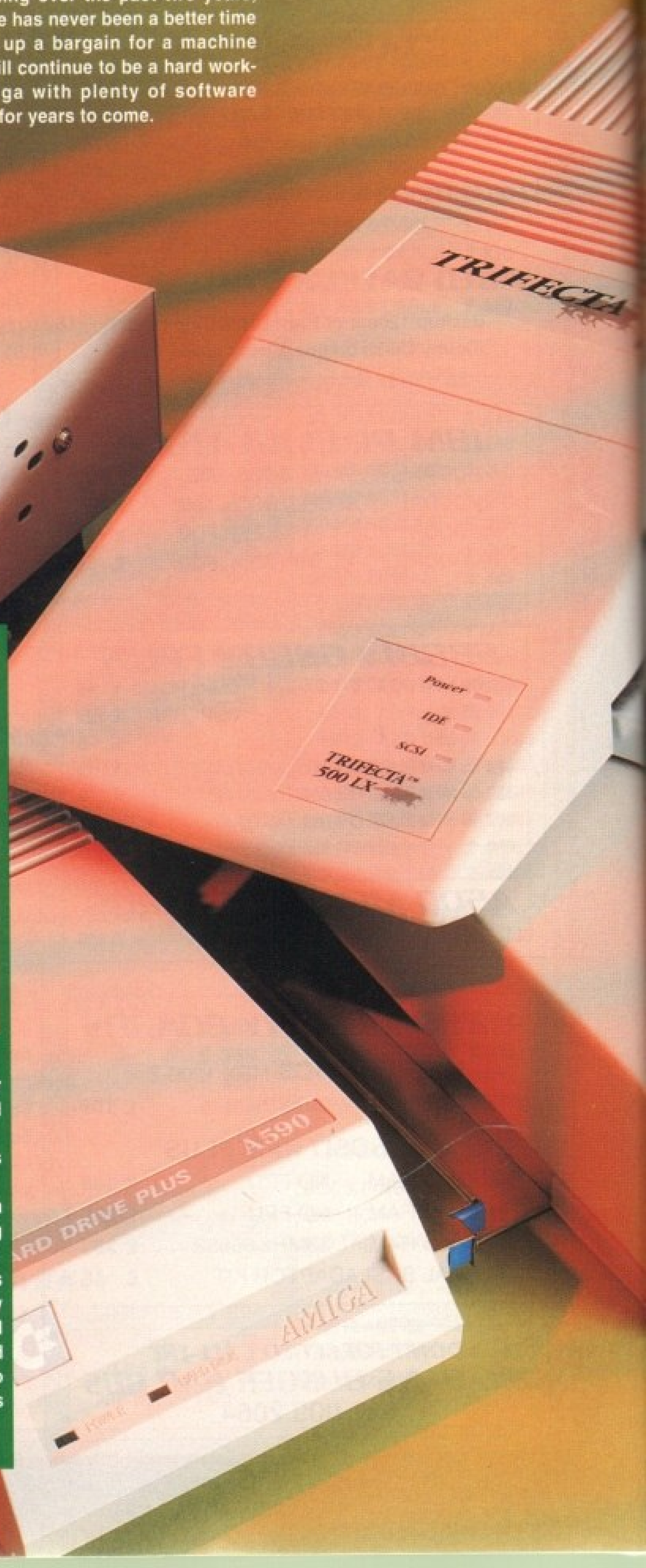
Remember that if a peripheral is badly chosen and doesn't suit the tasks to which it is put, it is a waste of money whether it was a bargain buy or not.

A1200 owners, whose options are limited mostly to internal IDE drives, have little or no say over what sort of hard drive they fit, though they at least have the benefit of the cheapest HDs in the Amiga market.

Owners of the A500/500 Plus/1500, however, can choose from a much wider range of drives, complete with a variety of memory and even accelerator options.

A500 owners are in the best position at the moment. The machine is no longer the flagship of the Amiga range, but it is still present in its millions and commands a hefty share of the market.

Hard drive prices for the A500 have been falling over the past two years, and there has never been a better time to snap up a bargain for a machine which will continue to be a hard working Amiga with plenty of software support for years to come.



A590

Drive type: SCSI
Make: Seagate ST325N
Capacity: 20Mb
Fits: A500, A500 Plus
Extras: SCSI through-port, external PSU, RAM expansion for 2Mb



Why are we still looking at this old soldier? The A590 was the original and official Commodore hard drive for the A500, and thousands of them were sold worldwide.

Despite the fact that the first models were slow AT-IDE drives with silly price tags, it has survived as a viable alternative to faster but more expensive modern drives.

Due to its age, the A590 can be found viciously price slashed in some of our mail order advertisements, and with its proven technology, reliability and extra features, it makes a good buy for those with limited hard drive needs.

In its official configuration, the drive is a 20Mb model, a size which is of use only to games players and those who use only one or two packages at most.

However, if the user is a flight sim buff and simply requires a drive onto which F17 SuperWombat IX can be transferred along with a wordprocessor and some other utilities, 20Mb is plenty.

As a peripheral, the A590 is finished to Commodore's usual high quality, with superb manuals and reasonably good software. Workbench 1.3 should normally be found ready installed on the drive, but this can be easily replaced with 2.04, as the formatting software will ask the user to insert Workbench disks to copy to HD once the drive has been prepped and partitioned.

Speed: 7 (transfer 564k/s, 31 seeks/s)
Features: 8
Software: 7
Overall: 7

Price: £175
Supplier: Universal Computer
Phone: 0227 773177

hard life

Buying a hard drive can be like giving your Amiga a set of wings. Stevie Kennedy looks at some of the avionics on offer



Reference 100

Drive type: SCSI
Make: IBM
Capacity: 105Mb
Fits: A500, A500 Plus
Extras: SCSI through-port, game switch, external PSU, RAM expansion for 4Mb



The Evesham Micros Reference 100 is a smart, compact unit for the A500 and offers a range of features at a good price. With space for 4Mb RAM, a SCSI through-port for future expansion, and a game switch to save hassle, the Reference looks immediately like a winner.

Unfortunately, the hardware is bedevilled by some of the most awful hard drive software I've ever clapped eyes on. Written using the CanDo system (slow enough in most cases), the prep program seems to use as many speed crippling text effects as possible to make the whole formatting and setup process an excruciating pain.

The software does work, and I managed to format the drive after a couple of tries with the rather confusing approach it takes, but any sane owner is advised to find some alternative HD toolbox software rather than use the supplied disk.

This is all a bit of a shame, as the drive is a perfectly good example of what can be achieved by putting a bit of effort into a design.

Manuals are good, with hints and advice on living with a hard drive, the hardware itself is fine, and a copy of the excellent MRBackup Pro software is thrown in as part of the deal.

In use, the Reference is quick enough without being blistering, and its game switch and easily accessible DIP switches make it an easy to configure unit.

With decent software it would be a hard act to follow, so get those coders to work, Evesham. Oh, and fix that loud whining cooling fan while you're at it.

Speed: 6 (transfer 400k/s, 50 seeks/s)
Features: 9
Software: 4
Overall: 6

Price: £329
Supplier: Evesham Micros
Phone: 0386 765500

ICD Trifecta LX

Drive type: SCSI
Make: Quantum
Capacity: 80Mb
Fits: A500, A500 Plus
Extras: External PSU, RAM expansion for 8Mb, game switch, SCSI through-port, double decker feature

This drive enjoys the distinct advantage of being supplied with ICD's HDPrep software, a strong contender for the Best HD Software award.

Setting up the unit for normal use is therefore easy and simple, with prepping, partitioning, and Workbench installation all taken care of within a single user-friendly program.

On the hardware front, Trifecta is a huge drive styled to match the A500 shape, but overhanging by two full inches at the rear. Inside this cavernous space is a double standard interface which, in the more expensive LX version, accommodates both SCSI-2 and IDE drives.

Connecting both SCSI and IDE drives inside one drive case seems a little strange at first, but the option to buy the cheaper IDE-only EC version, then upgrade by adding a SCSI controller chip and cable at a later date is an appealing one.

Users with expansion in mind can start from relatively austere beginnings and add an extra drive, 8Mb RAM, or even a PC emulator via the GVP-style mini-slot alongside the drive interface.

In tests, the SCSI interface fairly sprinted along, leaving all but the GVP drive for dead, and though suffering from an oddly low seek rate, general directory scanning and manipulation was lightning fast at all times.

In fact, despite seeming a fraction slower than the GVP in transfer and seek rates, Trifecta outperforms the GVP in more areas than not, shading it into second place in the Amiga 500 HD race for the first time in over two years.

Speed: 9 (transfer 1028k/s, 29 seeks/s)
Features: 9
Software: 9
Overall: 9

Price: £295
Supplier: Power Computing
Phone: 0234 843388



AlfaPower

Drive type: AT-IDE
Make: Conner
Capacity: 40Mb
Fits: A500, A500 Plus
Extras: External PSU, RAM expansion for 8Mb, game switch, double decker feature



The AlfaPower is one of a few external IDE drives for the A500, and is an attempt to use the cheaper interface and drive unit of the popular PC standard HD to bring a cost effective answer to Amiga owners.

Housed in a tightly packed tough plastic casing into which a second IDE drive can be installed so long as both are half height units, the AlfaPower is a workmanlike little beast.

Extra RAM to the tune of 8Mb can be fitted alongside the drives, so despite the lack of a through-port (impossible with a non-SCSI mechanism in any case), there is fairly generous room for expansion.

The manual and software supplied with the unit are adequate, though not quite as good as some, and new users should have few problems from taking the unit out of its box to formatting and partitioning it.

A good middle-of-the-road hard drive which would be instantly recommended were it not for its inconsistent speed rating. Despite a very average transfer speed, the AlfaPower managed in tests to create and delete files at a rapid rate, and had far and away the best seek time (time taken for the drive to locate a file).

Speed: 7 (transfer 548k/s, 164 seeks/s)
Features: 8
Software: 8
Overall: 8

Price: £249
Supplier: Gasteiner
Phone: 081-365 1151

Horses for courses

As ever, the most important consideration when thinking about a new peripheral is the task to which the device is going to be put. Users with ambitions on the graphics, music, or video side of the Amiga would be barmy to buy only a 40Mb drive, and games players with the odd word-processor are hardly likely to need or fill a 210Mb SCSI-2.

Generally speaking, the enthusiast will be in a position where Workbench, a few productivity packages such as Maxiplan and Protext, and the odd game such as Monkey Island 2, are becoming just too much of a pain to load from floppies.

For such people an 80Mb IDE, such as those now popular on the A1200, would be ample storage, and 40Mb would just about do if the budget is stretched.

Others who see the hard drive as a way to expand the Amiga's uses, and wish to mess about with large sound samples, video digitised sequences, 24-bit graphics, and so on, would be advised to go for at least 80Mb, with 105Mb as a comfortable in-between, and 240Mb as the ideal.

This may sound like a huge amount of storage, but it is barely adequate to hold ADPro and a couple of hundred decent 24-bit files and soon fills up.

SCSI EXPANSION

In addition, expansion-minded owners would be well advised to look at SCSI before plumping for the IDE standard. A1200 owners now have a choice with the advent of SCSI-RAM from GVP, and there are other interfaces on the way.

With SCSI, the ability to add another drive when needed, or control an optical drive, scanner, or plotter, can be essential when the lowly A1200 begins to build over the years into the centre of a powerful system.

Most owners may never need to look at another hard drive, and for those IDE is perfect, but anyone with an eye for the horizon and a wallet to match, SCSI is the only choice.

Golden rule number one is not just to settle for what you can afford at the time. If you need a bigger drive, hold on to your cash until you can afford one rather than spend £200 on a peripheral which soon becomes a hindrance.

Golden rule number two is to avoid buying more than you'll ever need. Don't splash out on an 80Mb drive just because the salesman tells you it's the most popular model and "you'll soon fill it up".

Unless you have a lot of games you play at the same time, or a large number of expensive productivity packages to install, larger drives can soon become money spent in waste.

Fujitsu Optical drive

Drive type: SCSI
Make: Fujitsu M2511A
Capacity: 128Mb per cartridge
Fits: All Amigas fitted with SCSI port
Extras: PSU, motorised eject, SCSI through-port, SCSI ID switch

Fujitsu's optical drives have been around for a while, and recent price cuts have forced them well below the old £1,000 barrier to a level where they just come into the enthusiast and semi-pro Amiga price bracket.

Utilising removable 128Mb cartridges, the drive theoretically has an infinite storage capacity, and at about £25-£30 per 128Mb (depending where you look), the owner with a need for lots of storage can find optical drives a very cost effective solution.

Fully read-write capable, the cartridges have very little in common with CD-ROM, which is a once-only storage medium. They are instead more akin to floppy drives in that the volatile storage disc of optical material is removed from the drive and the reading and writing mechanism remains.

Optical discs have the advantage of sturdiness over faster SyQuest removable hard drives. The optical discs themselves take a lot of stick before showing any signs of damage, and are perfect for porting huge wads of data from one machine to another. Drop the thing while looking for change on the bus, and it'll still crank up in your mate's machine.

This particular optical drive works as an external device in its own very sturdy case, supported by four large rubber feet. Two full size SCSI ports at the rear enable SCSI daisy-chaining, and a handy SCSI ID switch enables the rapid changing of SCSI ID numbers, something which can be a common necessity when using removable HDs.

Formatting is carried out by whatever software the user has for the existing SCSI interface to which the drive is connected, so this can vary from good to bad depending on the interface.

A common use for these devices has been with the A3000 and its built in external SCSI port, but Nexus, ICD, or GVP interfaces will do just as well.

Speed was surprisingly good, especially as removable drives have always been slower than fixed drives, but don't expect to match SCSI-2 with this one.

Speed: 7 (transfer 629k/s, 28 seeks/s)
Features: 9
Software: n/a
Overall: 8

Price: £899 (external) or £779 (internal)
Supplier: White Knight Technology
Phone: 0992 714539



AdIDE 2

Drive type: AT-IDE
Make: Quantum GoDrive
Capacity: 60Mb
Fits: A500/A500 Plus
Extras: none

Supplied with the same excellent ICD manuals and prep software as Trifecta, the Novia internal drive is easy to set up once physically installed, but it is this process which might put a few prospective owners off.

In its full kit form, Novia is made up of a drive mechanism, an interface, cable, and hard drive cradle, all of which must be crammed inside the A500 case.

Connecting the interface is a matter of popping the 68000 processor out of its socket and piggy-backing it on the interface board before shoving the latter in the empty CPU socket, an operation which the more technophobic of us might shrink from.

Once this is accomplished and the cradle attached to the motherboard using the supplied sticky pads, the drive should be as well mounted as any A1200HD, so as long as one can face the installation procedure, there's nothing to worry about.

As just about the only internally fitting A500 hard drive, the Novia unit has the distinct advantage of keeping the DMA expansion slot on the machine's left side open for business, though as many external hard drives allow for expansion through SCSI through-ports or, more rare, a DMA pass-through slot, this unit will appeal mostly to those with specific needs, such as portability or the need to save on desk space.

The drive's speed leaves something to be desired, but as an A500 thus equipped is unlikely to be used as a power machine, speed may not be as crucial to the prospective Novia owner.

A specific answer to a specific question, perhaps, but just about the only answer to those looking for neat and tidy A500 portability.

Speed: 5 (transfer 387k/s, 26 seeks/s)
Features: 7
Software: 9
Overall: 7

Price: £259
Supplier: Power Computing
Phone: 0234 843388

GVP HD8+

Drive type: SCSI
Make: Quantum ProDrive
Capacity: 42Mb
Fits: A500/A500 Plus
Extras: SCSI through-port, game switch, external PSU, RAM expansion to 8Mb

For long the title holder as far as A500 hard drives are concerned, HD8+ has for over two years been a touchstone for quality and speed. Though recently caught by drives such as the Trifecta, the GVP unit is still one of the very best buys around.

Manuals and software supplied with the drive are of a high quality, and the FaaastPrep software is good enough that it shouldn't confuse beginners.

There is sometimes a little too much technical information on offer for my liking, especially for those confronting a hard drive for the first time, but with the help of the clear documentation, setting up, prepping and partitioning should be a stroll for most of us.

In use, the large and easy to reach game switch, SCSI through-port, and 8Mb RAM expansion capability give the GVP a smooth, well thought out feel, but the pace of the Quantum drive humming away below the casing is the unit's major attraction.



A1200/600 options

At the moment, A1200 owners are faced with a fairly thin choice based mostly on the relative price of competing – and virtually identical – internally fitted IDE drives.

With the official A1200HD option now available, more and more owners will no doubt buy their Amigas with HD already installed, but for those who start with a floppy and wish to stiffen up their storage at a later date, the range of kits on offer is bewildering.

Something to remember, however, is that most kits are more or less the same, centring as they do around a limited number of 2.5 inch drive manufacturers and all of them using the same hard drive interface as built into the A1200 and A600.

So long as a drive unit is manufactured by Conner, Maxtor, Seagate, Quantum or IBM, you can be assured that its performance will not differ significantly from the others.

For example, much of the difference between the GVP HD8+ and slower drives which use the same Quantum drive mechanism is due to the clever Faaastprep ROMs and the GVP SCSI interface. Take away the interface variable and most drive units within a certain price range perform more or less the same.

PREPPING

Software is the key. Any hard drive will be fine so long as a cable is included, but if the prepping software is useless, the new owner is in for a hard time of it (no pun intended).

The answer? A program called RDPrep, released by Microbotics as a freely distributible rigid disk block formatter. Rigid Disk Blocks are blocks on a hard drive which hold all the information concerning how a drive is partitioned, what filing system it uses, and so on, and are now a standard on Amiga HDs.

RDPrep simply and efficiently preps and formats any hard drive the user cares to prep, and does so with the minimum fuss and bother.

RDPrep will be making an appearance on a CoverDisk in the near future, so keep you eyes peeled. Alternatively, just buy the cheapest IDE drive you can lay hands on and get RDPrep from a PD library.

Most drive units within a certain price range perform more or less the same



Marking up speeds which, across a wide range of tests, fall slightly below the Trifecta, HD8+ still manages to come out top in both transfer rate and seek speed timings, a tribute to a design which is almost three years old.

Combine this with a solid reliability record and you have a unit which is still a difficult package to beat.

It's fair to mention that the unit tested in this round-up is over two years old, the suppliers having failed to send us a new model in time for the review.

It is to be expected that the most recent revisions of the HD8+ have benefited from minor tweaks and fixes, but if there has been a significant improvement in the drive's performance, GVP are keeping quiet about it, so there's no reason to believe the test is not valid.

Speed: 9 (transfer 1066k/s, 44 seeks/s)
Features: 9
Software: 9
Overall: 9

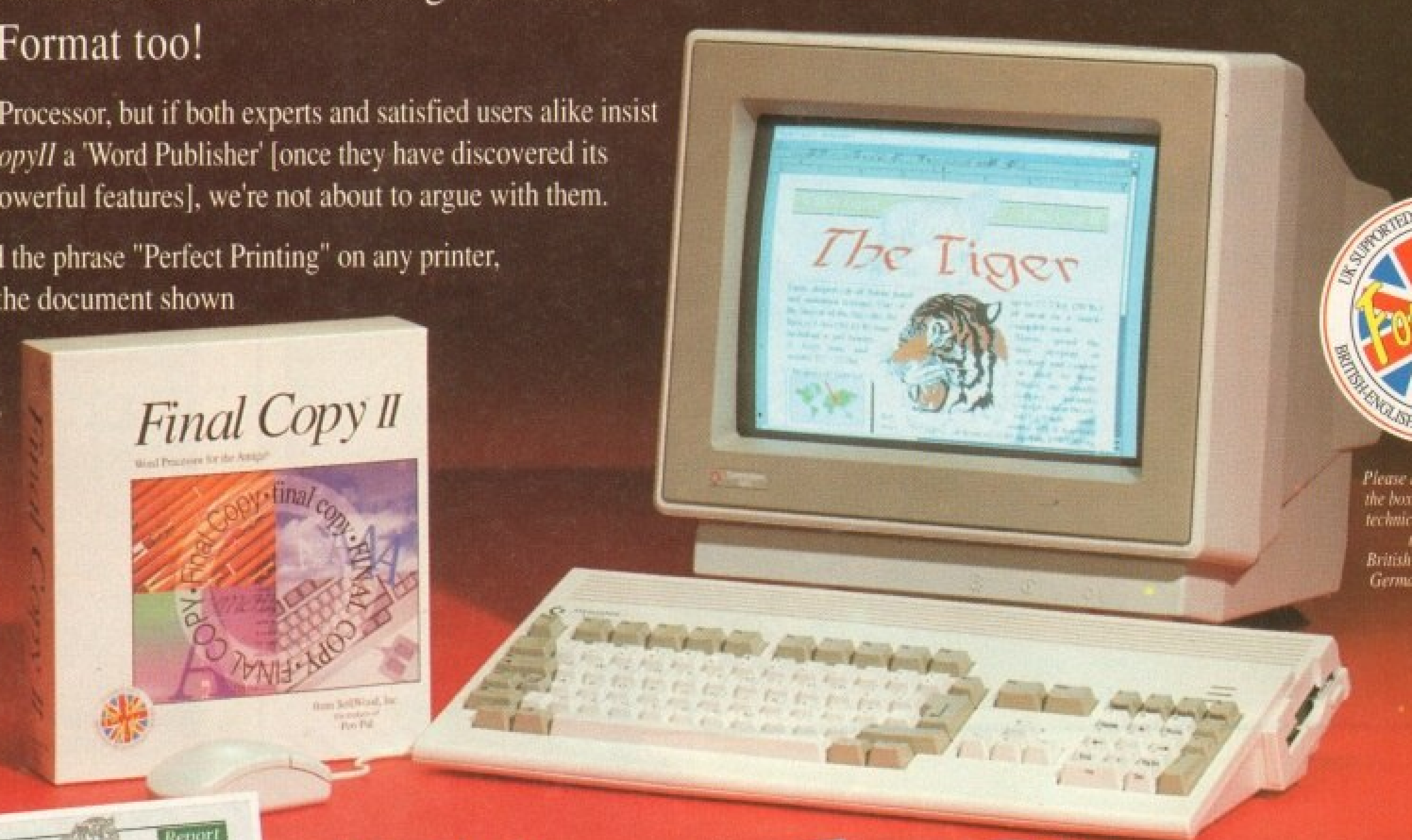
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Supplier: Silica Systems
Phone: 081-309 1111

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Wildlife Report

The Tiger

Large striped cat of Asian jungle and mountain regions. One of the largest of the big cats, the tiger is 3-4 m. (10-13 ft) long, including a tail 1 m. (3 ft) long, and weighs 227-272 kg. (500-600 lb.). Both sexes are immensely strong, enabling them to bring down and overcome animals the size of buffaloes. Their main prey is deer, antelope, wild pigs and bushbucks.

Lacking the stamina for a prolonged chase, tigers rely on their striped markings to conceal their movements as they silently creep up on their victims before making a sudden rush from behind. They kill by first knocking the animal down with a blow of the forepaw, or pulling it down with the claws, then suffocating it with a powerful bite at the neck or throat. Tigers swallow meat in large chunks, using their teeth to cut rather than to chew, and eating up to 22.5 kg. (50 lb.) of meat in a single meal.

Tigers spend the day sleeping or resting and emerge at dusk to hunt. Males are usually solitary animals, except during the breeding season. Each male marks off a territory of from 65-650 sq. km. (25 sq. miles), which contains several females and which he defends against other males, marking the boundaries by spraying a mixture of both his urine and scent.

Tigers once ranged all the way from China to Turkey, but today their range are largely confined to India and South-east Asia, with smaller populations in China, Siberia and Turkestan.

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Ezra Surf's Postbag

ESP

Star Letter

Temptress didn't deliver

I would like to add my voice to those complaining about programs which cannot be installed on hard drives. A few months ago I purchased a Virgin game called Lure of The Temptress which comes on four disks and uses manual protection. It cannot be installed on a hard disk.

On page four of the manual it lists system requirements, and under MS-DOS version states "hard drive recommended" and includes instructions on hard drive installation. Once again a software company has made the Amiga look like the poor relation.

I have given up trying to complete the game because of the large number of disk swaps, even with two floppy drives, and I now try to avoid like the plague programs that cannot be installed on a hard disk. Software houses take note!

Nicholas Redgrave, Clevedon

Take note indeed! The more Amiga owners complain to software companies about the hard drive situation the more likely we are to see something done. I suggest you write to Virgin and tell them exactly what you think.

To be fair, every software company, not just Virgin, is guilty of ignoring the growing number of Amiga hard drive owners, something which should soon be impossible as more and more people buy upgrades or machines such as the A1200HD.

The only way to make a commercial concern take notice of you is to make a commercial protest. If you feel so strongly about the lack of hard drive-compatible games, write to the games company concerned, tell them you are unhappy with their product and that you will not buy another non-HD game, then stick to buying games which do work on hard disk.

When software houses receive a steady dribble of letters from aggrieved owners and see sales of HD games picking up, it won't be long before they change course and start to cater for the market. This, after all, is the only way to succeed in business.

Basic problem

I bought my first ever home computer, an Amiga 600, last August, and I have since bought games to play on it and used various utilities supplied free on your CoverDisk.

I then felt it was time I attempted to write some programs for myself, so I purchased some books to assist me, namely Phil South's *Mastering Amiga Beginners*, *Amiga Made Easy* by Patrick Hall, and Paul Fellows's *Amiga Basic*.

All three books state that I should find an icon on my Extras disk called AmigaBasic, but although I have searched the disk thoroughly I am unable to find it.

The Workbench I am using is v2.04. Am I doing something wrong? Could you advise me on where to get help? I desperately want to get going with programming.

Sue Standing, Epsom

You are doing nothing wrong, rather it is the authors who told you to look on the Extras disk who are at fault. AmigaBasic hasn't been supplied with AmigaDOS since Workbench 1.3, having been replaced in part by ARexx, which you will find is supplied with your copy of Workbench.

Unfortunately, there is no information on ARexx in your Workbench manuals, and our monthly ARexx Insight column has long gone past the absolute beginner's stage. You could try Bruce Smith Books on 0923 894355 for information on their excellent Mastering Amiga ARexx *book.*

On the other hand, a back issue of February 1993's *Amiga Computing* will furnish you with a copy of HiSoft Basic, and if you also lay hands on the March through to August issues, there is a sound six-part basic guide to programming using the February disk.

If you feel like branching out a bit, try our Insight Programming column, which this month embarks upon a beginner's guide to Pascal.

Hard Lemmings

In reply to Graham Wood's letter in the July issue regarding Lemmings 2, the mysterious exit panel on the menu which is covered in red crosses and appears to do nothing is in fact to enable you to return to Workbench without rebooting.

What? I hear you cry. How so? Games on the Amiga don't interface with other programs, do they? Well, Psygnosis have grasped the nettle on this one and full marks to them. Yes, they made it hard drive installable and it works from a Workbench icon!

I bought a copy of Lemmings 2 Patch from 17-bit Software, a patch written by Psygnosis and released into the public domain, which installs the game on your hard drive.

Now a question. With Workbench 3.0 I can use Multiview to view various text and graphics files. However, the manual states that I can add other datatypes to the Classes:datatypes drawer to view files made by other applications. Where can I get these datatypes and what do they look like?

Richard Hayward, London

I hope the author of our first letter is reading this one. It's good to hear of a company making a retrospective step to accommodate hard drives. Well done Psygnosis.

As for datatypes, these are small pieces of code to which Multiview refers when loading a file. If the file is of a format catered for by a datatype, it can be decyphered and displayed by the program.

We have in the past included the GIF datatype on our CoverDisk to enable Workbench 3.0 owners to view one of the most popular PD image file standards, and if we spot any other useful examples we'll bung them on, so keep your eyes peeled.

If you can't wait, contact a PD library and enquire as to whether they have any in their collection.

AUGIR disk

A few months ago you were kind enough to print a letter of mine informing your readers of a PD title I was putting together called AUGIR, or the Amiga User Group International Register.

This letter is to inform your readers that the said disk was released at the end

➤

A500 has lots of mileage left

As a purchaser of Commodore's products, I am one of the victims who bought an A500 Plus, then watched it killed off after a couple of months. I have rebelled by ignoring the A1200, and instead purchased an A530 with which I am extremely pleased.

After reading the letter by J Farrar from Hayle, I would recommend Epic from Ocean and Flames of Freedom from Rainbird, both of which run at tremendous speed with the accelerator enabled.

On another note, I have a problem with PageStream v1.2. When loading clip art I get a corrupted image if the clip art is loaded as an object, but fine if loaded as a picture window. Oh, and thanks for the Cinemorph jr disk on the August issue – it's just loads of fun.

Paul Tompkins, Harrow

I'm glad you liked the Cinemorph jr program and hope you find it fun for a good long time to come. It's also nice to hear someone who continues to have faith in the future of his supposedly outdated A500 Plus.

As your investment in an A530 confirms, the older Amigas have a great deal of life left in them yet and should continue to render sterling service to their owners for years. That said, it is unwise simply to "ignore" the A1200.

In conjunction with the CD32, the A1200 constitutes the future of the Amiga range and is a landmark in that, so long as it continues to sell well, it lays the ground rules for future Amiga development: more RAM, faster 32-bit processors, and 24-bit graphics.

Pet hate

I hate printers, I detest, loath, and abhor the mute, maniacal, mechanical monsters. Printers are the lowest form of animal droppings on the planet, rating slightly below the offal from a long diseased cow which has been left to go off in the sun for a week or so. Put simply, I hate the bastards!

My laser printer, which I bought in the sadly mistaken hope that it would be less hassle than a dot matrix, makes a sound like a dying baby seal every time it prints, and leaves big smears down many of the pages. Excuse me while I go off and bin the sod!

Irate, Kensington

Er ... any more pet hates out there? This could be a therapeutic exercise.

Ezra Surf's Postbag

ESP

of June and should be available for no more than £1.75 from most outlets.

Anyone charging more than this does not have permission to stock the disk, which contains some 120 UK-based groups, and has addresses from Africa, New Zealand, Europe, Asia, Canada, and America.

Bob Powell, Birmingham

If anyone out there has a user group which would profit from a little extra exposure, please let us know, including details of the machines used, what are your group's main areas of interest, and so on. We will print details of user groups in the Ezra pages if space permits, but beware all PD companies or individuals! We won't allow free publicity to go to a commercial concern. This service is for genuine amateur user groups only.

Ground breaker

Having been an Amiga owner for four-and-a-half years and being aware of virtually all the recent articles regarding the PC vs Amiga vs Atari debate, I feel compelled to write to you about what most articles have ignored.

I refer, of course, to the reason why the Amiga has been such a success and whether the new models really are going to keep Commodore are the forefront of home and serious computing.

I believe that the real reason the Amiga was such a success was that it broke entirely new ground in terms of technology and price point. The leap from the days of the Spectrum and C64 to the Amiga was a very exciting one to be involved in. The trouble with the A1200 is that it is really only an enhancement of the tried and tested A500 formula.

Sure, the A1200 has very powerful features and specifications, but it has not broken the sort of barriers the original A500 did against the C64. The A1200 is also not helped by the fact that it is effectively fighting for money which Mr Average does not have readily in the midst of this damned recession.

With the success of the A500 under their belts, Commodore should have capitalised on this by releasing new machines which broke new ground and included many of the improvements people have been begging for.

Secondly they should recognise that there are millions of Amiga owners out there who might want to upgrade to the new technology.

Please don't get me wrong. I for one will be sticking with the Amiga range, but as long as Commodore continue to ignore what an asset its A500/A600/A1200 user base is, I will wait for that elusive Amiga sequel.

S J Smith, Colchester

While the A1200 is certainly an enhancement on previous Amigas, it is unclear how it could have been anything else. When launched, the Amiga 1000 and 500 models represented an entirely new 16-bit home computer revolution, and it isn't often that we get to make such a bold step with a completely new platform.

Had the A1200 been a completely new platform, existing Amiga owners would have been unable to run their software on it and it would have had something other than "Amiga" printed on its case.

Now that the Amiga is an established machine with millions of owners, we have to accept that bold moves forward can only come in the shape of enhancements, though I admit we could have seen a few more wish lists fulfilled with the A1200.

Possibly the most daring leap forward for Commodore is the CD32 which, while not new in terms of its technology, opens up a completely fresh Amiga market for the pure unadulterated fun of huge CD games.

If this machine does even half as well as Commodore hope, its sales should generate enough revenue to safeguard future Amiga developments.

Got something to say through the pages of AC? Ezra Surf is our mailman, dedicated to reading your letters and selecting the most interesting for publication. Drop him a line at:

Ezra Surf's Postbag , Amiga Computing Adlington Park, Macclesfield SK10 4NP

Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to shorten your letters, so don't be offended if you end up getting the chop .

We're no Scrooges!

I received your magazine through the post the other day and was a bit insulted by the comment that Amiga owners using Kickstart 1.2 were "mean". I refer to the box entitled "memory muncher" on the CoverDisk page of your August issue.

I run a 1Mb A500 with Kickstart 1.2 which has served me well for several years and it's still going strong. I would dearly love to splash out on upgrades and add-ons, but being unemployed with a wife, three children, and a mortgage to support, my Amiga sadly comes bottom of the essentials list.

I bet there are many others in a similar position, so it's not being "mean" as you implied, but a drastic lack of funds.

Secondly, where do we send duff disks from the August issue? My disk has a read/write error and you didn't print an address that month.

Simon Burgess, Horley

I'm sorry you feel insulted by the comment in our disk pages. It was meant as a joke, and as a householder with four cats and a mortgage to support, I sympathise with anyone who would dearly love to spend cash on gadgets rather than mundane items such as food, heating, and the roof over one's head, not to mention enough cat litter to fill an open-cast mine site.

The comment was unguarded and our apologies go to any readers who may feel insulted. Ah well, such is the inevitable result of living in a society which puts material wealth over spiritual health every time.

Duff disks from the August issue should be returned to Colin Yarnall at the address printed on the Comment page. This arrangement is, of course, open only to August issue disks because of the lack of a printed returns address.

Tutorials are tops

I have only just discovered your magazine and I bought it, I must be honest, for the Bars & Pipes jr CoverDisk. I should also add that I think it is an extremely good idea to continue the tutorials for the main program in the magazine.

I was also pleased to see that you had several tutorials in your pages, in particular relating to AmigaDOS. I am writing to ask if these pages could continue beyond the basics so that I may actually have a working knowledge of the subject at the completion of the series.

So often I find that such articles cover only the extreme basics or the very advanced level with a big jump from one to the other. It is at the intermediate level that I would like more coverage. Is it possible to include some coverage on why one would want to use certain features rather than telling the reader that XYZ can be achieved?

For example, I would appreciate an article which relates to fonts. Not so much exactly what they are, but which type can be used with different programs, like can I use a CompuGraphic font with Final Copy or Scribble? If not why not? What is a PostScript printer? How do I know if mine is such a machine?

I realise that you may have answered these questions in an earlier issue and also that they may seem very basic, but computers are a relatively new world to me and I am trying to use my son's A600 for more serious applications. I have this nagging feeling that there is a lot of untapped power lying beneath the keys.

Francesce Shearcroft, Wokingham

Tutorials are a notoriously difficult thing to pitch at the right level. Only last year, on the conclusion of the Absolute Beginners series, we received the odd letter from experienced user who disagreed with using pages to "pander" to the needs of complete beginners who, this reader insisted, should buy a book and stop wasting everyone's time.

We don't, of course, subscribe to such views, nor do we agree with some of the beginners who complained about the same articles being over their heads. All a magazine such as ours can do is try to provide help for as many people as possible.

Look out soon for the beginning of a new column on Amiga troubleshooting which will attempt each month to look into an area of difficulty and show readers how to get things done.

Ranging across the entire spectrum of Amiga use, it will be prompted by the letters and requests we receive from confused readers, so if there's a subject you'd like to see covered (apart from fonts) let us know.

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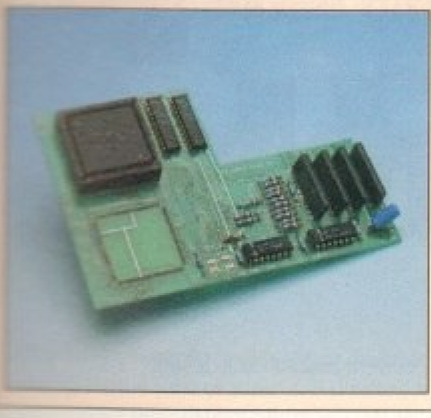
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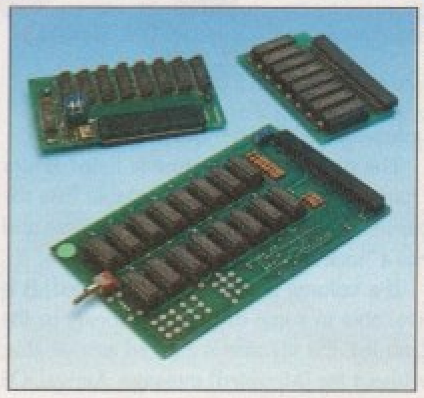
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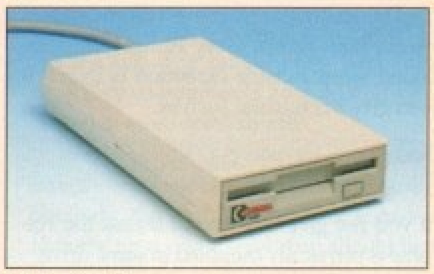
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Pump up the

What have you learned so far? By now you should be able to format a bootable disk from AmigaDOS, have a basic understanding of the directories and the way commands work. This may not seem much – but you have absorbed a lot more than you may think.

This month, you will need your working AmigaDOS disk and your formatted, bootable disk from last time. At the end of last month, you learned how to get a listing of all the directories and sub-directories on any disk. Let's recap that command:

```
1>DIR DF0: DIRS ALL
```

This command lists all the directories and sub-directories on the disk in drive DF0: (provided the command has been made "resident" as explained before). But what if we wanted to specify a particular disk, and what if DIR was not resident?

When you enter a command like this, the first argument tells it where to look. In this case we're using a drive name, but AmigaDOS keeps a list of all the drives and disks currently available to the user.

When you insert a disk in any drive and the system sees it (it appears on Workbench) it is said to be "mounted". At this point the disk's "volume" name is added to a list called the "assignment list". AmigaDOS has a special command, INFO, to show the current drives and volumes on the assignment list.

Open the Shell and enter:

```
1>INFO
```

Your screen may look a little complicated (and yours will be different because no two disks are exactly alike) so let's examine what it all means.

The name of the device in question is listed under the heading Unit. Two standard drives are supplied with every machine – DF0: (the internal floppy drive) and RAM: (a RAM disk generated by Workbench). My machine has hard drives; yours may have others shown such as a second floppy.

Size is the size of the disk in the specified drive in kilobytes, used tells the number of disk blocks (sectors) used, while Free displays the number of free disk blocks – this depends on the formatted size of the disk in question.

Full shows the percentage of the disk used – calculated from the number of free blocks versus the number of used ones. RAM disk is always full because it expands and contracts according to requirements.

Errs is the number of disk errors spotted by the system since the disk was last validated (validation is a check performed every time you insert a disk or write something to it).

Status can display one of three possibilities: Read only (the disk is write protected); Read/Write (the disk can be written to); or No disk present (means exactly that).

Validating means that the disk is currently being validated. This process is performed very quickly and it is rare to see this message unless the disk has developed a fault.

The disk's volume name is listed under "name", while Volumes Available lists the names of any disks AmigaDOS has seen and has a "lock" on.

If a volume is marked as [Mounted] it is available in some drive and appears in the Unit list. If a volume is marked as available, without the [Mounted] message, AmigaDOS is using it but it is not currently inserted in any disk drive. Let's see that in action.

Remove the Workbench disk. Insert your formatted boot disk in the internal drive (DF0:) and open it on the Workbench.

Remove your disk, replace the Workbench disk and enter INFO again. You will notice that boot disk appears under the list of available volumes – but is not marked "[Mounted]".

Nip back to Workbench and close boot disk's window. Now click inside the Shell and enter INFO once again. This time you will see that boot disk is no longer available.

There is a point to this: AmigaDOS keeps track of disks in two different ways. First, it knows about the physical drives mapped onto the system and second it knows about the disks loaded (mounted) in those drives.

This means you can access a disk by name rather than drive number – very important if you want to access a particular disk regardless of where it is.

For instance if you replace DF0: in the DIR example with the name of your disk, you can access it no matter where it is. Try it:

```
1>DIR boot disk: DIRS ALL
```

Important: The name of any volume must be followed by a full colon (:) or AmigaDOS will not recognise it.

You will notice if your formatted boot disk is not already mounted in some drive, AmigaDOS will present a requester.

This example will not do much, because your boot disk is still rather empty. You can try the same example on any disk – get its full name from the INFO command described above.

If the disk's name contains spaces, it must be surrounded in quotes – there is no harm in using them anyway. Here are some examples:

```
1>DIR "Workbench2.1" DIRS ALL
1>DIR "WB 3.0" DIRS ALL
1>DIR "My Odd Disk:" DIRS ALL
```

DIR does not have to be made resident (as described last month) when it is used in this way. That's because when you access the command it is first loaded from disk and held in memory until it completes.

The technique of using volume names works with almost every AmigaDOS command' – one notable exception is INFO. If you give a command such as:

```
1>INFO "boot disk:"
```

it will not give any output unless the volume is physically mounted in some drive.

It's all very well knowing how to list the directories on a disk – but what does all this mean? As we have seen, the structure (organisation) of directories on any disk is hierarchical – like a family. Let's look at a simple example.

First make the RAM disk the current device by entering the following (your screen prompt will change to reflect this):

```
1>RAM:
```

Now let's get a listing of the directories currently present in the RAM disk's "root" directory. Notice that in this example we do not have to specify the device or volume name because the command takes the current position as a default:

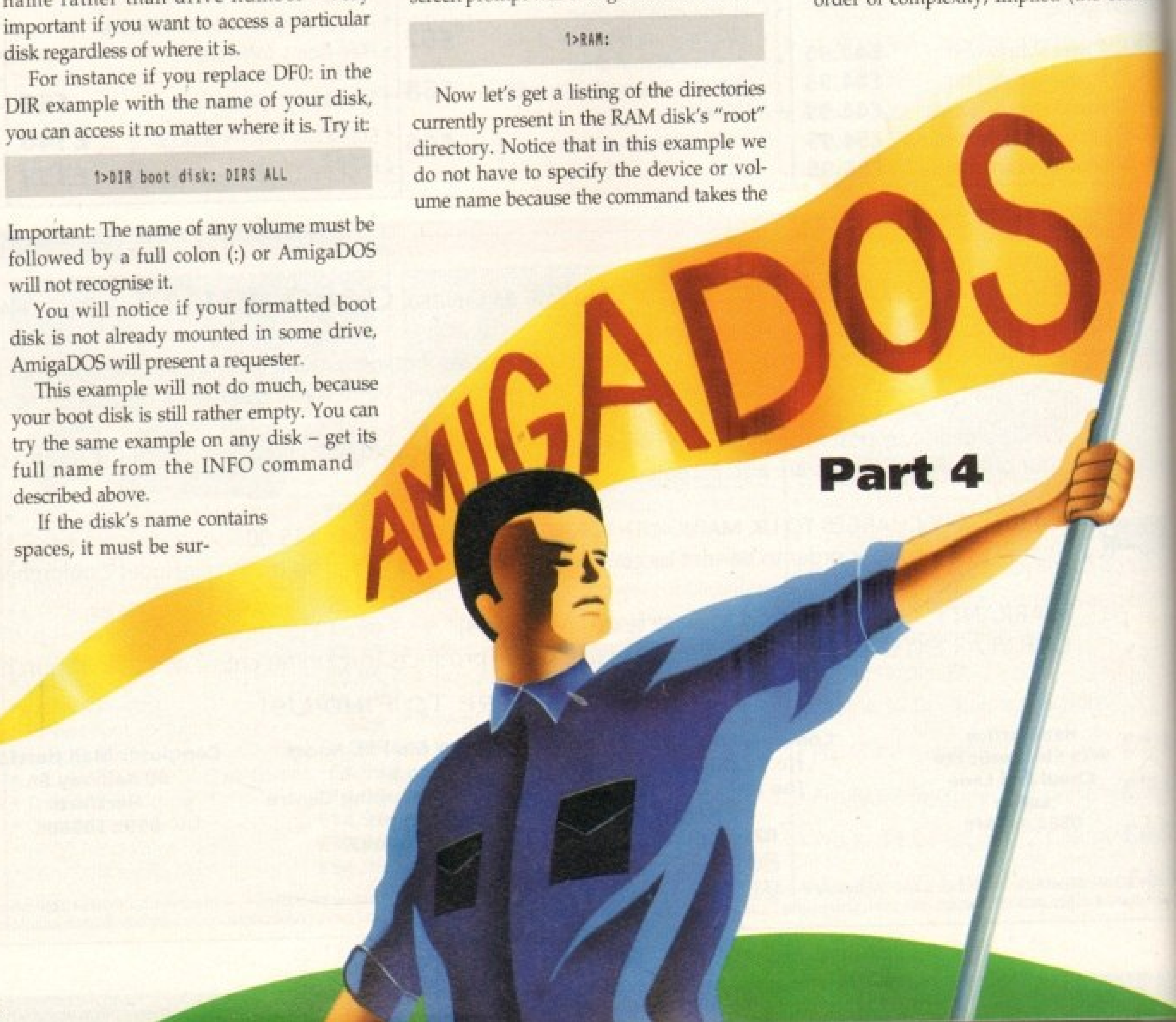
```
1>DIR DIRS
Clipboards (dir)
Env (dir)
T (dir)
```

This disk contains three directories tha[t] were created by an AmigaDOS program on the boot disk when the machine wa[s] started.

Strictly speaking these directories ar[e] sub-directories of the root device, RAM: but such "paths" are usually contracted down to something more reasonable.

Directory paths are a very importan[t] part of AmigaDOS and a basic understand-ing of them is vital if you are to progres[s] further (just to confuse matters, there's another path called the "search path" tha[t] we'll be covering later).

A path is a description of the position o[f] any object on any disk. Paths can be, in order of complexity, Implied (the curren[t]



Part 4

In Part 4 of our introduction to AmigaDOS, Mark Smiddy explains the background to disk volumes and drives

volume

directory); Simple (a device or volume name); Partial (one or more sub-directories lower than the current directory); Direct: (the complete path specification, including the device or volume name); and Relative (a path referenced from some other known position).

When we change the current directory by entering the name of some disk device such as RAM:, we are performing a simple directory change.

AmigaDOS has a command to perform this function (CD – current directory) but it is largely redundant in AmigaDOS 2 and higher, so you can ignore it.

Paths can sound quite frightening, but are controlled almost exclusively by just two special characters, described below; the system handles everything else for you automatically!

: Indicates the root (base) directory of any disk device.
/ Separates sub-directory names.

Now let's see how to use these to navigate around the directory structure.

Check you are in the RAM disk (use DIR if you like), and from the prompt, enter:

```
1<062>t
```

That will place you in the RAM disk's C directory – the prompt will change to reflect this. Using DIR shows this directory is empty. A better command to use would be LIST – like this:

```
1>LIST
Directory "" is empty
```

The message here shows the directory "" (the current directory) has no contents. T is a special directory used by some AmigaDOS commands to store temporary items.

Now enter this:

```
1>:
```

There's no mistake there – the ":" tells AmigaDOS to go back to the root directory of the current disk. You can check this using DIR or LIST.

In a similar fashion, we can change directories like this:

```
1>SYS:
```

which takes us directly to the root directory of the boot disk (your working AmigaDOS disk) and:

```
1>T:
```

to go directly back to the T directory of the RAM Disk. The table below lists these directory assignments and they are discussed in more detail shortly

We saw previously how we could return directly to the root level by entering a colon. Similarly, the slash (/) character allows us to move up a single level. You should be in the T directory of the RAM disk now, so enter this:

```
1>/
```

The prompt changes to reflect the fact you are now in the root directory once more – we've gone back one level up the tree. Now let's select another directory:

```
1>ENV
1>SYS
```

Don't place colons after these – it's not a mistake! This takes you to a special directory in the RAM Disk – with a path of "ENV:sys" or "Ram disk:Env/Sys" depending on which way you look at it. This is where Workbench stores the current preferences files – you can use DIR or LIST to view the names for yourself.

Now let's move up one level at a time.

```
1>/
```

takes you to "Ram Disk:Env" and:

```
1>/
```

returns back to the root directory once more.

From the RAM disk's root directory we can get directly to "Ram Disk:Env/Sys like this:

```
ENV/Sys
```

or:

```
ENV:Sys
```

And we can go straight back to the root directory by moving back up two levels in one step:

```
1>//
```

or using the root symbol:

```
1>:
```

For my last trick in this little series of directory path jumping, here's how to move to the boot disk's root directory, to Ram Disk's T directory, then to "Ram Disk:Env/Sys" using four different methods – try to work out what's happening:

```
1>SYS:
1>RAM:T
1>/Env/Sys
1>:T
```

It's enough to make your brain itch. Don't worry – we've covered a lot of ground here and you only need to know some of the basic moves to manage. The clever stuff comes with practice...

The subject of directory assignments is something that can make even the most experienced Amiga users go pale – so why introduce it now? Because assignments are part of the essential ground-work – not some esoteric subject to be hidden under the carpet. Boot your Working AmigaDOS disk, open the Shell and enter this command:

```
1>ASSIGN
```

The list can look rather frightening at first – especially when you consider all that information came from a single command. This list can be sub-divided under its three headings.

The Volumes: listing is the same as shown under the INFO command and requires no further description here.

Directories is the most important and the most complex part of the listing and shows the logical directories assigned to the system. Some of these are required by any Workbench boot disk; others are used by specific applications. A list of required directories are shown in below.

Devices shows all the hardware and software devices currently attached to the system. At AmigaDOS level, there is no need to differentiate between a physical device such as a disk drive (DF0:, DF1: and so on) and the software devices (such as RAM: and PIPE:). Device names are always followed with a full colon.

Logical assignments (C:, DEVS:, L:, and so on) can be treated just like volumes. All the AmigaDOS commands are stored in the C directory on the system boot disk and AmigaDOS looks for them by referencing the C: assignment.

For instance, you can look at the contents of the C: directory on your working AmigaDOS disk by entering this:

```
1>DIR C:
```

Which, if you had booted from a disk labelled "Workbench2.1" is the same as entering:

```
1>DIR SYS:C
```

or:

```
1>DIR Workbench2.1:C
```

● *Next month I'll look at how to create the required directories on your own boot disk.*

Name	Default path	Workbench	Status	Original contents
SYS:	Boot disk:	All	Auto	Root directory of boot disk.
C: SYS:C	All	Auto	AmigaDOS Commands.	
L: SYS:L	All	Auto	Handler libraries.	
S: SYS:S	All	Auto	Scripts.	
LIBS:	SYS:Libs	All	Auto	External function libraries.
-*-	SYS:Classes	3.0+	Added	New class libraries
DEVS:	SYS:Devs	All	Auto	Device drivers.
FONTS:	SYS:Fonts	All	Auto	Typefaces.
REXX:	S:	2.0+	Manual	ARexx scripts
KEYMAPS:	DEVS:Keymaps	2.1+	Manual	Old keymap files.
PRINTERS:	DEVS:Printers	2.1+	Manual	Printer drivers.
ENV:	RAM:Env	1.3+	Manual	Global environmental store.
ENVARC:	SYS:Prefs/Env-Archive	2.0+	Manual	Current user preferences
T: RAM:T	All	Manual	Temporary files	
CLIPS:	RAM:Clipboards	All	Manual	Clip files.
LOCALE:	Locale:	2.1+	Late	Country localisation info
HELP:	Locale:Help	2.1+	Late	Country help files.

Key

Auto – assignment made during bootup.
Manual – assignment made by startup-sequence.
Added – manual assignment added to an existing one.
Late – manual assignment called when required.
boot disk – the name of the disk the machine was booted with.

Housekeeping on a shoestring

Ben Pointer proves that you don't need wads of money to keep an Amiga ticking over safely and smoothly



Workbench is a wonderful graphical user interface, especially the latest 2.1 and 3.0 versions. It is by no means perfect though, and to customise your system so that it is right for you, more software is needed.

That's the bad news. The good news is that everything you need is free. Well, almost free. You've guessed it, I'm talking about so-called public domain or PD software, which should be more accurately called freely distributable software because it isn't actually in the public domain (no copyright, that means).

There are many flavours of PD, ranging from shareware that is a cut-down version of the software (cough up for the full version), to licenceware that includes an author's fee in the cost, to freeware where the author retains the copyright, supplies the full version, and does not want any money but may place restrictions on how it can be distributed.

And there's a lot of it. The Amiga Library disks – better known as Fish disks after the surname of the person who compiles them – feature more than 4,000 programs on almost 900 disks.

There are other collections, though none as big, that enable the serious public domain library to provide catalogues sporting thousands of disks. One US library proudly claims a library of almost 10,000 disks.

Much of this PD software is technical or very specific to particular setups, but hidden among the dross are some real gems.

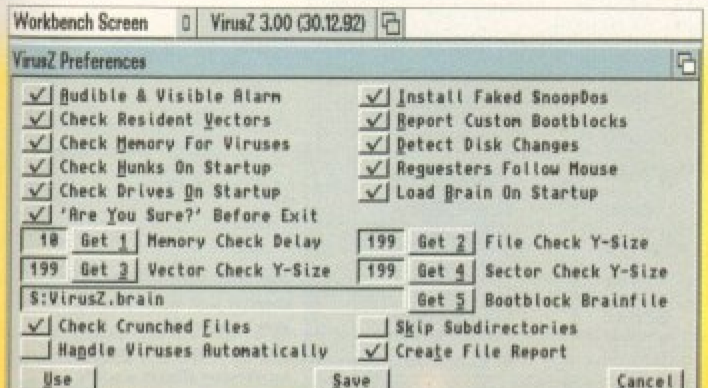
Something every serious Amiga user should own is, for want of a better term, a directory manager – a utility which gives you a user interface for copying, moving or deleting files, creating and deleting directories, renaming files and so on.

As well as this, directory managers enable you to view pictures, play sound samples and modules, edit text files and just about everything else you can think of.

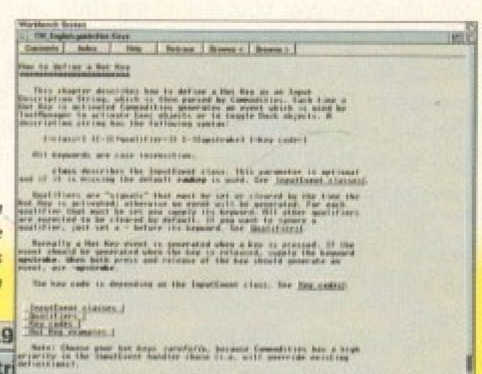
The best known of this genre of software is the commercial Directory Opus, and it is indeed a marvellous program, but there are PD alternatives.

My favourite is DirWork on Fish 721, written by Australian Chris Hames, who is perhaps better known for PC-Task, the software IBM-PC emulator, but you might also like to check out MegaD on Fish 736, SID on Fish 651, and BrowserII on Fish 843.

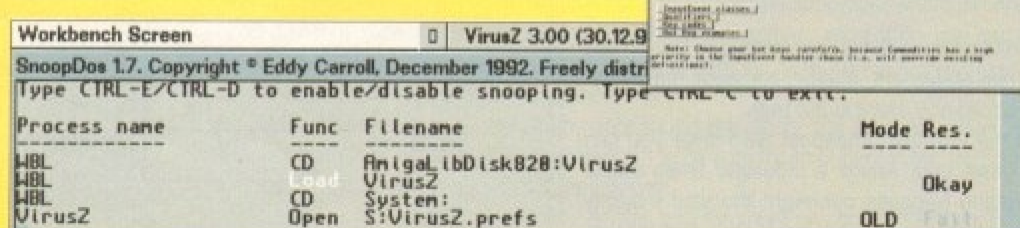
Another type of program that can help you manage your data is a disk fixer. None of us are as careful as we should be about backing up important data, and when that floppy disk or hard drive partition corrupts, a rescue job is required. Forget Commodore's ➤



Only a fool would be without a virus detector, and the free VirusZ is a better one than many expensive commercial efforts for the PC



Documents in the AmigaGuide format are a pleasure to read, provided you have AmigaGuide of course. Clicking on the highlighted key words takes you stright to that section



SnoopDos enables you to see why a program has failed. Here I can see that VirusZ was unable to find its preferences in the S:VirusZ.prefs file (because I had neglected to copy them there)

Working with floppy drives

For the first few months after buying an Amiga, many new owners struggle along with just the built-in floppy drive. Frustration and confusion quickly set in as time after time they boot from Workbench, remove that disk and insert a program disk, double-click a program icon and then almost immediately get asked to replace the Workbench disk.

Either that or the program fails to run. They soon learn that booting from the program disk causes fewer problems.

Bootable program disks are cut-down versions of the Workbench disk. Many "non-essential" Workbench files have been deleted to make room for the program. And if you are determined to stick with using a single floppy drive, one way to make life easier is to learn how to cut-down Workbench yourself so that you can build lots of bootable disks to contain all your shareware utilities.

There are four very different versions of Workbench currently in wide use – 1.3, 2.04/05, 2.1 and 3.0. Of these, only 2.1 has plenty of space free on the Workbench disk, but this is only because all the system preferences programs are on the Extras disk instead of in the Prefs drawer on the Workbench disk.

Much software, including Workbench software, will look for certain files in SYS:Prefs – SYS: being the root directory of the disk you booted from – and if those files are not there the software may fail or not run as designed.

Workbench 1.3 is the simplest system and, to be perfectly frank, is the only one of the four currently in-use versions that is viable on floppy disk. Almost the entire contents of the Utilities drawer can be deleted – you might like to keep More and Printfiles.

This will make about 130k free on the Workbench1.3 disk, which is normally plenty for installing a shareware program, and even a good number of commercial programs.

SAFE DELETIONS

Because you've deleted the (awful) Say program, DEVS:narrator.device can also be safely deleted as nothing else will need it. And so can L:Speak-Handler. In the C: directory there are 64 files of varying sizes, and a lot of them can be got rid of. Check your S:startup-sequence file first, make a note of all the commands used in that file, and make sure you don't delete any of them.

There's one quite big one that can go because you'll never need it: Edit (but not Ed). You can also delete the DiskDoctor program because it causes more problems than it cures.

With the above deletions you should be able to make about 200k of free space. And that's about as far as you can safely go.

Workbench 2.04/05 users can try the same idea, but as a lot of the system is in the Kickstart 2 ROM there are not so many "non-essential" files on the disk and it's very difficult to make even 100k of space.

I think I can assume that everyone using Workbench 2.1 is also using a hard drive, because that version of the operating system was sold as an upgrade kit and doesn't come as standard with any Amiga.

Amiga 1200 owners have a real problem. Workbench 3 is such a powerful beast that it is not viable to run it from floppy drives. Install it on to a hard drive and it takes up about 4Mb of space, and almost all of that "system" is essential to the proper and productive use of the Amiga. OK, it sounds like a cop-out, but after an afternoon of trying to use an Amiga 1200 with two floppy drives I wondered how on earth anyone new to the Amiga manages to boot the machine properly, let alone use it.

An alternative to the "build your own boot disks" idea is to use a bootable RAM drive. Commodore supplies one called RAD:, but there are shareware offerings as well, the most well known being RRamDisk (RRD:) on Fish disk 451.

To use a bootable RAM drive you must alter your startup-sequence or user-startup to copy all the system files from your boot disk to the RAM drive, and then the next time you do a warm reboot (Ctrl-Amiga-Amiga) the system boots from the RAM drive instead of floppy. The RAM drive becomes SYS:, and any program that is looking for system files will look in the RAM drive for them, leaving your floppy drive(s) free for other uses.

The disadvantage of using a RAM drive, of course, is that it consumes a megabyte of memory, so it's not really viable unless you have 3Mb or more.

The solution to all these problems is to buy a hard drive. A glib statement, maybe, because not everyone can afford one, but it is the truth.

Even the smallest, cheapest hard drive you can find will make your Amiga a thousand times easier to understand because overnight the vast majority of those complaining and confusing requesters will disappear.

➤

DiskDoctor, what you need is Dave Haynie's DiskSalv. Workbench 1.3 users will have to make do with v1.42 on Fish 251, which can only be controlled from the CLI; the rest of us can use the deeply wonderful v2, which has not as I write made it into the Fish collection, but probably will have by the time you read this. Check out the high 800s and low 900s, or if you've got a modem, pull it off your local bulletin board.

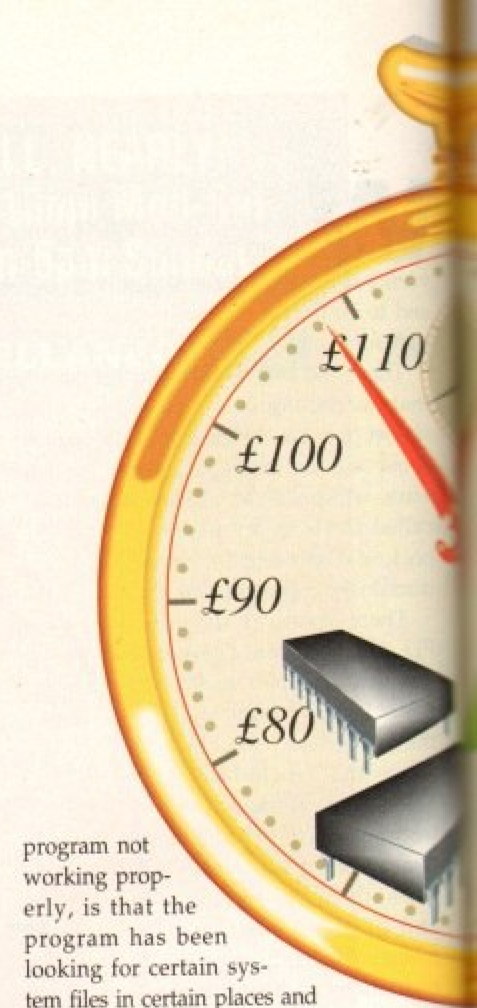
Sadly, a virus checker must be among your collection of essential tools. Although it is often awkward to have a virus checker running at all times, if you are putting lots of disks into your drives you really should protect yourself, especially if those disks did not originate in your home.

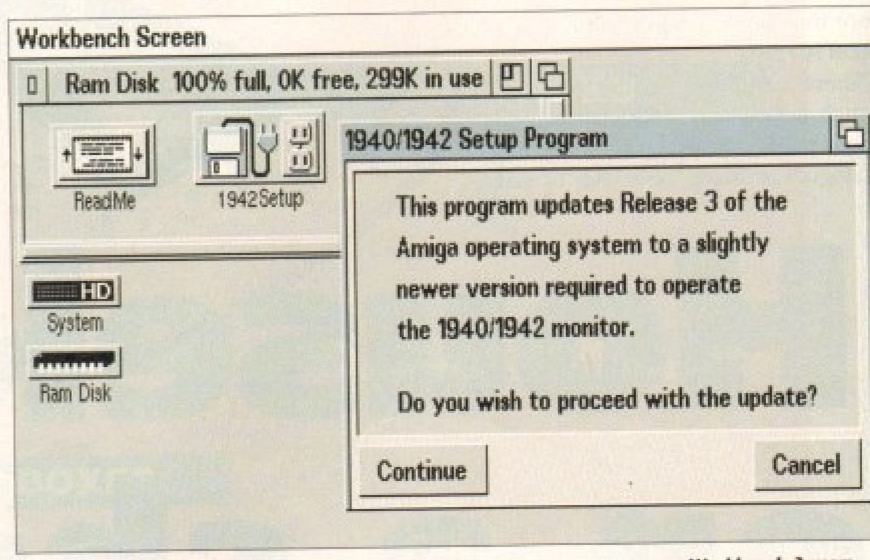
UP TO DATE

John Veldthuis' VirusChecker is by the far the most up to date system, and just about every batch of Fish disks that gets released contains a new version. You might also like to try Georg Hormann's VirusZ. Any PD library should be able to supply you with the very latest versions of both of these.

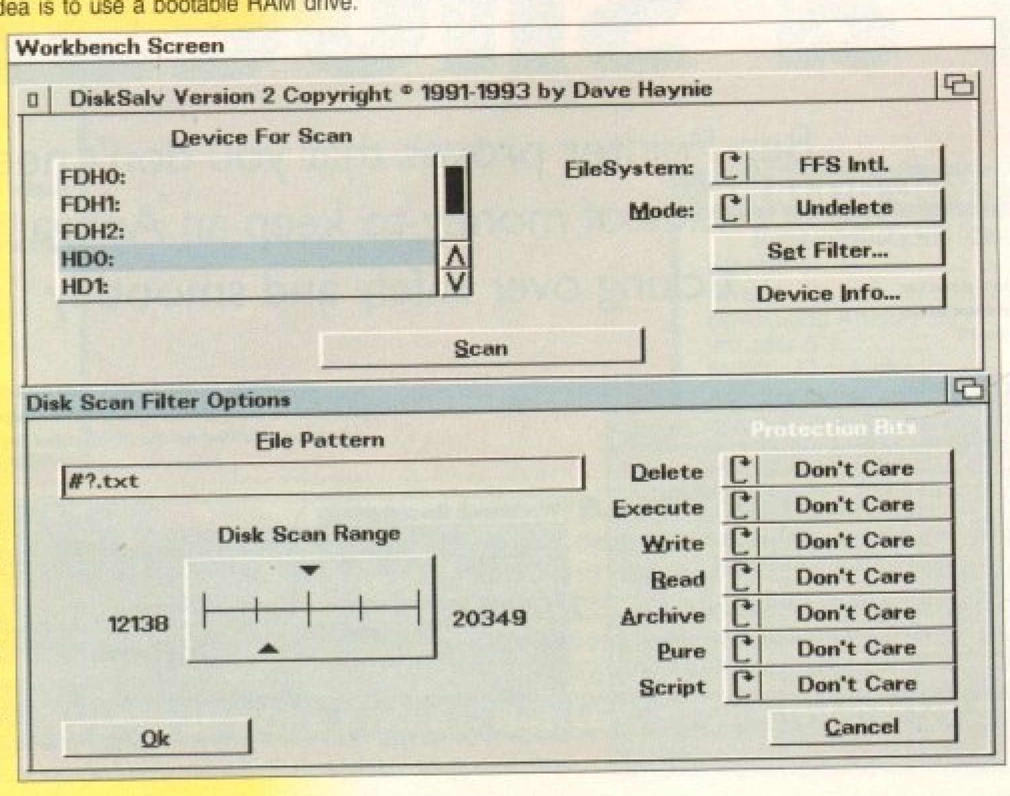
One of the most common causes of a program not running, or of a feature of a program not working properly, is that the program has been looking for certain system files in certain places and it hasn't been able to find them.

Decent software will provide a sensible error message. Alas, much simply stops abruptly with a "can't do that" type of requester, leaving you high and dry with-

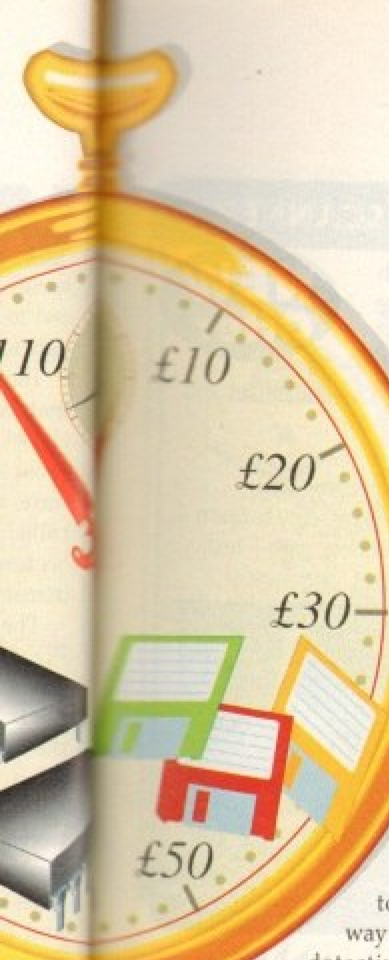




Workbench 3 users should keep an eye on the Fish disk collection for this small update to the operating system



Disk and hard drives corrupt just when you don't want them to. Dave Haynie's DiskSalv makes recovering files a doddle



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out a clue. Not to fear, there's way to do your own detective work. Eddy Carroll's SnoopDos on Fish 725 does what its name suggests – it snoops on DOS. Every time any program tries to load a file, the attempt will be listed in the SnoopDos window, along with an OK or Fail. Simply run SnoopDos before running your errant program, and watch for what the program was trying to do when it failed.

If it was looking for a file called "libs:smellysausage.library" and stopped after failing to find it, it doesn't take an Einstein to work out that the file "smellysausage.library" is missing from your LIBS: directory.

There's a another utility along these lines called DosTrace. Written by Peter Stuer, it's not yet on a Fish disk, but it is well worth hunting down because it provides even more clues than SnoopDos.

Funnily enough, DosTrace comes with documentation in the AmigaGuide format, which is what I wanted to mention next. This type of text file is interactive. You click on key words to move around the document, and it makes reading text on the screen a much more enjoyable experience.

Workbench 3 is compatible with AmigaGuide format documents via the MultiView program, but everyone else, including 1.3 users, can benefit from it too by getting hold of Fish 870.

Something Workbench 3 users probably won't have yet are proper Monitor programs for the new Commodore 1940 and 1942 monitors. A small update has just been released by Commodore and will no doubt be in the Fish collection soon.

Look out for 1942Setup, which comes with new Overscan, IPrefs and SetPatch commands as well as the new monitor screen modes.

It's always best to look after your monitor, to make sure you don't leave it switched on and unattended for long periods of time, which can result in an image being "burned" into the screen.

There are many impressive and fun-to-watch "screen savers" to choose from, programs which, after a specified period of time, either blank the screen or put up some kind of moving display. My favourite is Markus Illenseer's ASwarmII on Fish 798, but the Big Daddy of them all is Thomas Landspurg's SuperDark on Fish 858.

RECOMMENDED

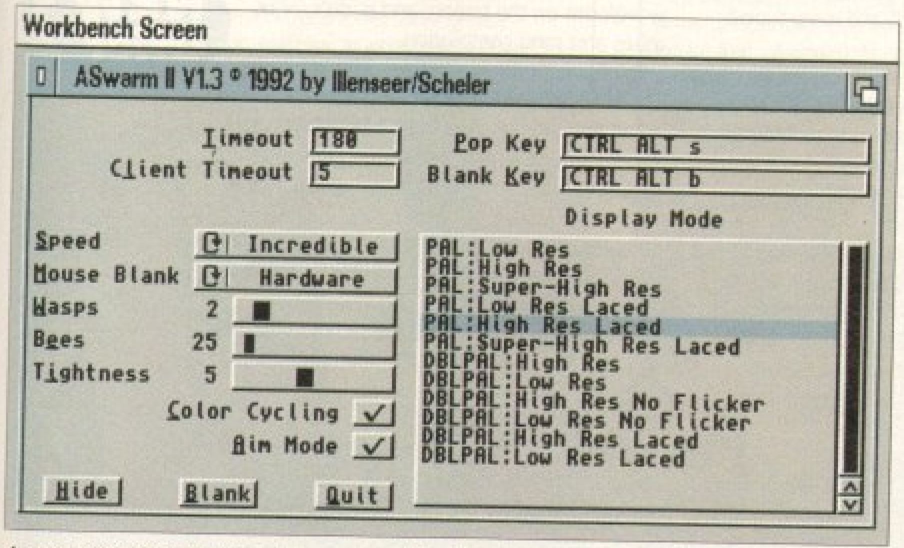
Hard drive users with Workbench 2 or later should not be without two programs I've recommended in a previous Amiga Survival Guide – Stefan Becker's ToolManager on Fish 873, and, if you haven't got a hard drive back-up utility, Denis Gounelle's ABackup on Fish 871.

There are many, many more superb tools to be found on the Amiga Library disks, but it's worth noting that the vast majority of PD authors have stopped supporting Workbench 1.3. If you are still using 1.3, one of the most important survival steps you can take is to upgrade your operating system.

You will have to decide whether to stick with the machine you own and upgrade that, or sell-up and buy a more modern Amiga.

And that, as they say on the telly, is all we've time for. For another computer, the software I've talked about in this article, which is all of a very high "professional" quality, will have cost many hundreds of pounds. We've spent about £20-£25 all told, so even your wallet has survived.

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A screen saver is a fun way to ensure your monitor doesn't have a still image burned into it because you left it on unattended for too long. This is ASwarmII's setup panel, but there are half a dozen good ones to choose from on the Amiga Library (Fish) disks

Working with low memory

Gone are the days when the Amiga came with 512k of memory and the addition of another 512k changed it from a games machine into a serious computer.

Nowadays it comes with 2Mb minimum, and like the 512k of old, this 2Mb still isn't enough for serious work because the applications have grown with the Amiga.

Many applications, including shareware ones, require at least 1Mb of memory. By the time your Workbench has booted, which can easily consume 512k or more depending on the complexity of your Workbench, and you have run your application, you are left with well under a megabyte of free memory, which precludes multitasking or using any application that requires lots of memory for data.

Such applications include word processing, desktop publishing, video and graphics work, scanning... the list goes on and on.

If 512k is all you have in your Amiga.... Why? Even if you've got 1Mb, these days there is a lot of software you won't be able to use because Workbench and the application will consume almost all of that memory, leaving only a few bytes for data.

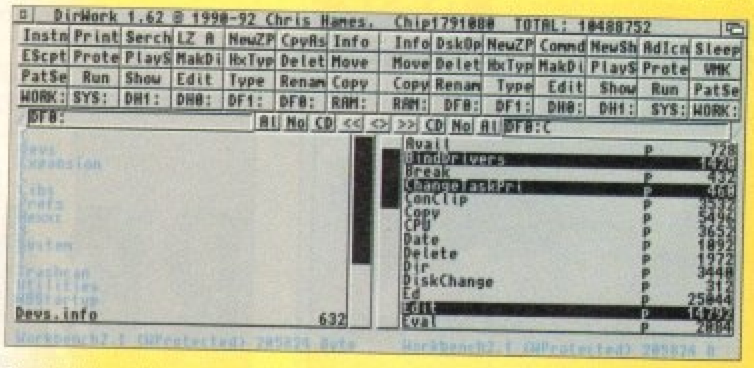
With 2Mb you'll be able to at least experiment with powerful software, even if you might be limited as to what you can achieve.

There's not much you can do upon booting the Amiga to conserve any amount of memory that is worth conserving. Back in the old days there was a little hack that we used to force Workbench to boot in two colours instead of four, thereby saving a massive 32k of memory.

That's pocket change these days, not even enough memory to enable you to create another page in a wordprocessor. But upon running an application there are a few things you can do to conserve memory.

The fewer colours you work in, the less memory will be used. Your Workbench or application may look sexy in 8, 16, 256 colours, but will four colours be enough for what you are doing? Or even two?

The lower the screen resolution, the less memory will be used. Do you need to work in



A directory manager like DirWork is something every Amiga owner should have as it makes "housekeeping" jobs like copying and deleting files much easier to do

Productivity or hi-res laced, will lo-res do? The higher screen resolutions may look good, but if you haven't enough memory left to do any work, what's the point?

Applications that read a list of fonts when you run them have to store that list in memory. Cut down the number of fonts they have to read and the program will use less memory.

In a similar vein, every time you use a font, the whole font is loaded into memory, even if you use just one character. If you use the "font preview" feature of an application to see what all the available fonts look like, all of those fonts will be loaded into memory. And in memory they remain, even if you don't use them in your project.

To clear them out of memory you will have to reboot the computer, or use the Avail Flush command from a Shell if you are using Workbench 2.04 or later.

Some programs "fragment" memory. During use they grab a bit of memory here, a bit of memory there, and when you attempt to do something that requires a large amount of memory that is all in one chunk, the operation may fail or, as is more often the case, the Amiga may crash. It's not supposed to crash, but many programs are not written as properly as they should be.

You can use the Avail command to check for fragmented memory. Look under the Largest heading. If the largest amount of chip memory available falls below about 20,000 bytes, never mind what total amount Avail has under Available, it is time to reboot your Amiga.

If you don't, some very strange things may happen. You might find that windows fail to open and menus fail to drop-down. If a program doesn't have a hot-key for Save and Quit, you might not even be able save your work and quit the program.

Like the addition of a hard drive, more memory transforms the Amiga into a much more useable computer. It crashes much less often. You can get more work done. It even increases the speed at which programs run because they can almost always work with a suitably large chunk of memory instead of having to grab bits here and there and remember where everything is.

But before rushing out and buying the cheapest memory expansion you can find, think about the future. An expandable expansion board will be of much more use to you than one that comes with a fixed amount of memory.

Right at this moment another 4Mb might sound like plenty, but there are many applications that will snub their noses at that, considering it to be a paltry amount of RAM, particularly image processing and desktop publishing applications.

Memory is the key that unlocks the Amiga, and the more you have of it, the easier it will be to survive.

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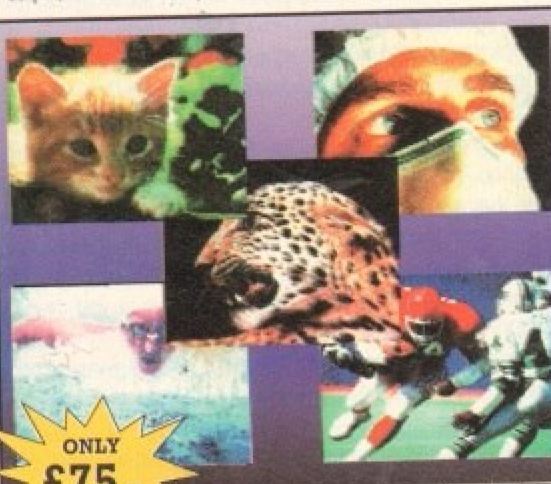
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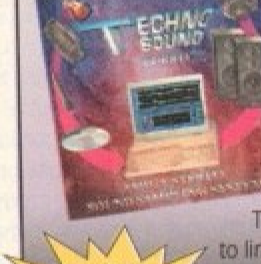
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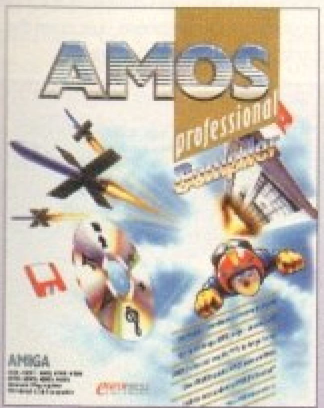
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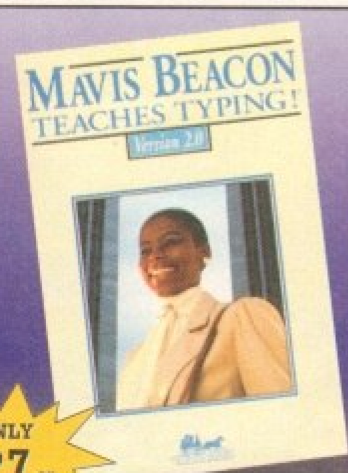


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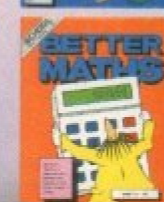
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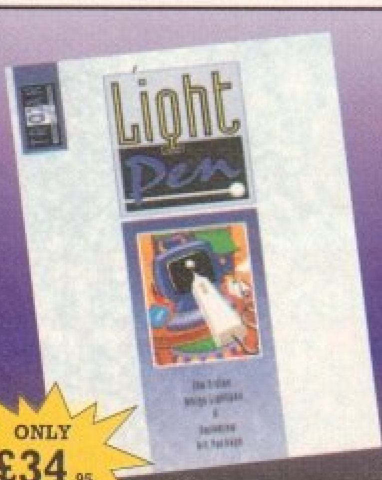


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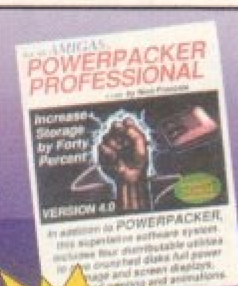


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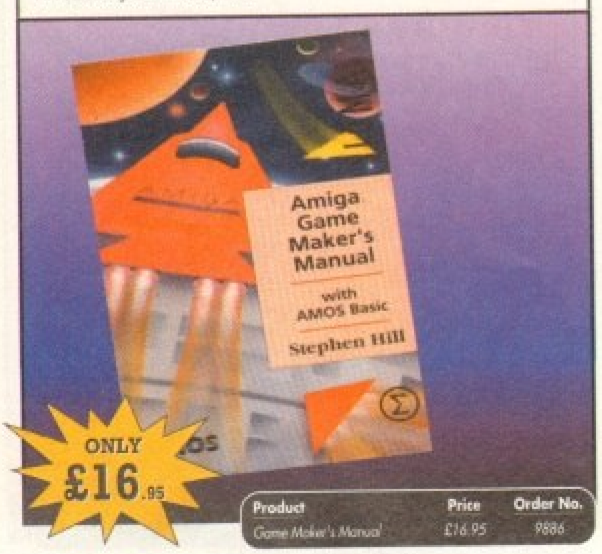
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Eight-bit wonder?

Have GVP come up with a cure for the perennial problem of 8-bit sound quality? Read on as Paul Austin puts DSS8+ to the test...

With the arrival of 16 and 12-bit systems such as Clarity and the SunRize range, 8-bit sampling appeared to have had its day. However, thanks to those illustrious technophiles at GVP, 8-bit could see a renaissance courtesy of DSS8+ – a hardware and software combination which attempts to combine sampling, editing and song construction within a single interface which can slip into any one of its aforementioned alter egos at you command.

Although multiple modules aren't unique, the same certainly can't be said for the hardware. As far as connections are concerned there's the usual array of twin RCA/phono-ins plus an additional mini jack for a microphone – with standard connection to the Amiga via the parallel port.

Not a particularly startling collection of I/O options admittedly, however they are complemented by a very stylish see-through plastic case offering a unique window into the hardware itself.

Although designer styling is all very nice it's the sound quality that counts, and in this department DSS8+ is very impressive, easily matching the best efforts of all-comers in the 8-bit market.

IMPRESSIVE

Alas it's not all good news for GVP as the accompanying software doesn't quite match the performance of its plug-in counterpart. That's not to say it's bad, in fact it's pretty impressive, nevertheless it does fall into the unfortunate trap of attempting to be all things to all men – and indeed women.

As a consequence all the basics are on hand while some of the more subtle aspects of editing and song construction have been overlooked.

After highlighting the pitfalls it's only fair to mention a near perfect element of the system, namely the program's sample module.

Thanks to this very well implemented aspect of the package you're provided with an unrivalled degree of control and automation when recording samples. With such a glowing testament the sampler module is perhaps the ideal place to start the tour.

However before you can access any of the modules the program defaults to the sample list which is capable of showing up to 31 sample positions – whether they're stereo, mono or chip-based tracker samples.

As well as a straight list of sounds, it's possible to play each sample without accessing the editor. In addition you can also select the list position for new samples – whether they be recorded or loaded.

Accessing any sampler module is simply a matter of clicking on its icon in the tool panel – an element which is generic throughout the software – with various icons remaining active or passive depending on the editing mode in question.

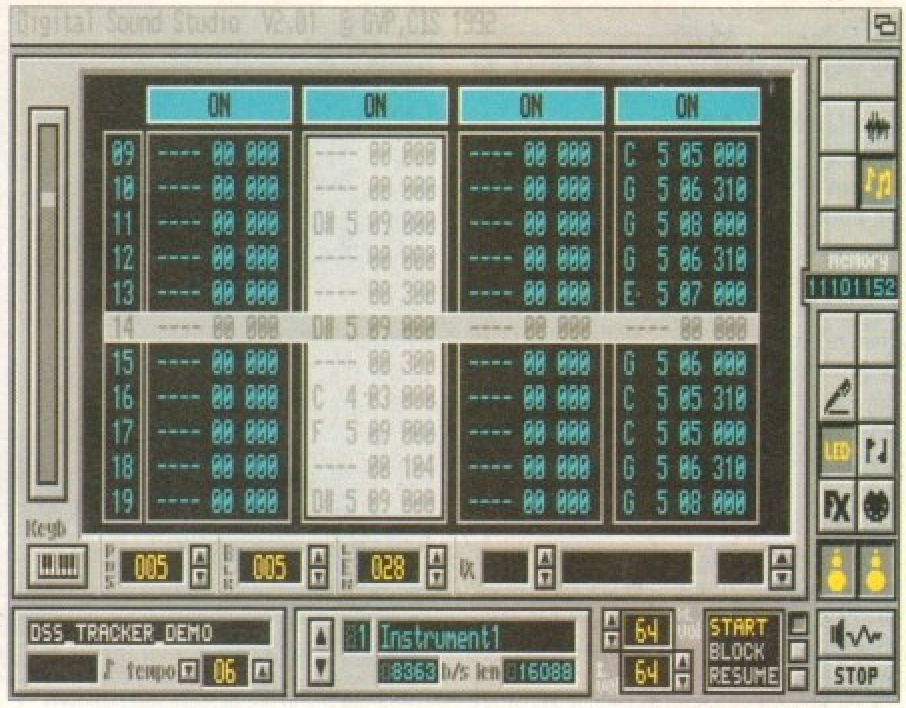
On access to the sampler the main screen will update displaying the various monitoring and recording presets. However on your first visit you're provided with the opportunity to fine-tune your particular combination of sampler and machine – a set-up which can then saved out as a default.

Like any recording system the most important elements are the inputs which can vary between left or right, stereo, mic or combined left and right producing a mono end result.

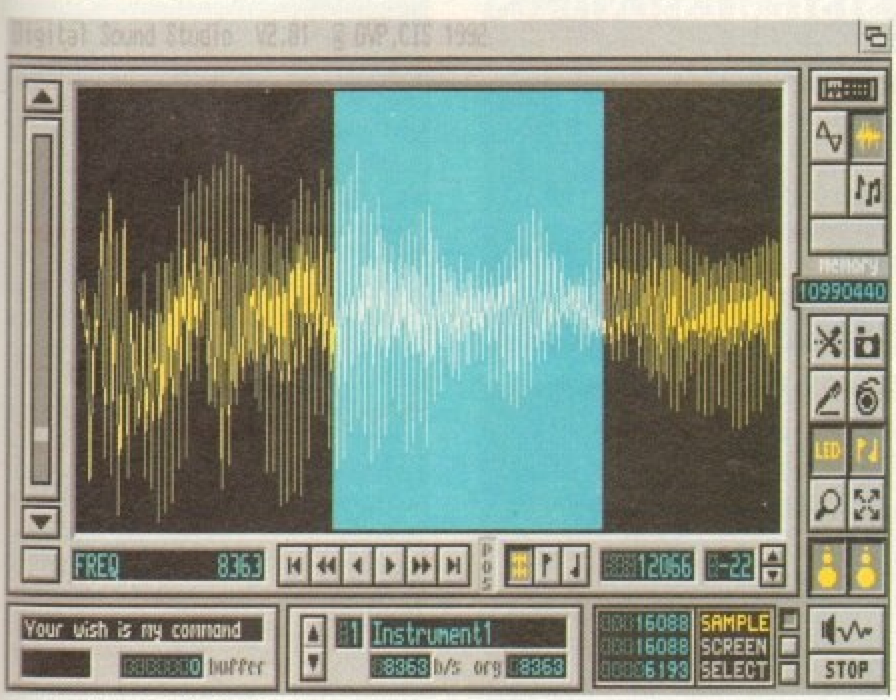
Better still, both channels have independent gains – which can be set automatically if required – allowing live mixing of the incoming stereo. As you'd expect, monitoring caters for both mono and stereo input as either an oscilloscope or – mono only – spectrum analyser.

For reasons best known to GVP, both displays can appear in three different sizes either within the main program window over a black – hi-fi play – backdrop. In the case of the spectrum analysis there's even an option to modify the Hz or resolution of the data on display.

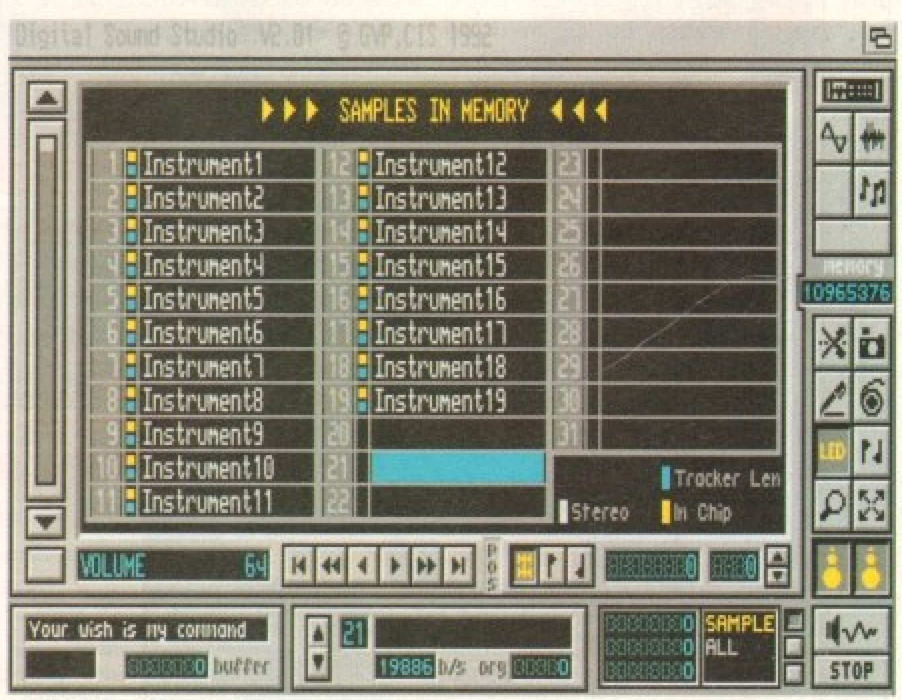
Assuming set-up and signal analysis is complete, all that remains is to set the sample length – a useful addition if you plan to combine the new sample with an existing one or alternatively to ensure you don't starve your system of all its resources. ➤



The tracker is very much a traditional effort



Sample editing is basic but effective



The highly useful sample list

Aside from sample length, most of the remaining options concern the all-important sample rate. This can reach 51,136 sps for mono and 42,613 for stereo, the period – or system clock cycles and the samples pitch or note – shown as a note and octave combination.

Although each has its own adjustment, they're all interdependent. For example, any changes in the rate automatically changes both the pitch and of course the period. This may seem a rather strange approach but it does mean samples can be adjusted allowing a generic pitch or sample rate ensuring compatibility with other samples.

Lastly comes our old friend the low-pass filter, which in the case of DSS8+ is programmable allowing you to specify any one of 128 settings. Alternatively you can leave the decisions to the software via an optional auto-filtering feature.

After setting up and checking the signal isn't being clipped or distorted via the monitoring options, recording is simply a matter of hitting the button and waiting poised on the left mouse button ready to initiate recording.

SAMPLE LIST

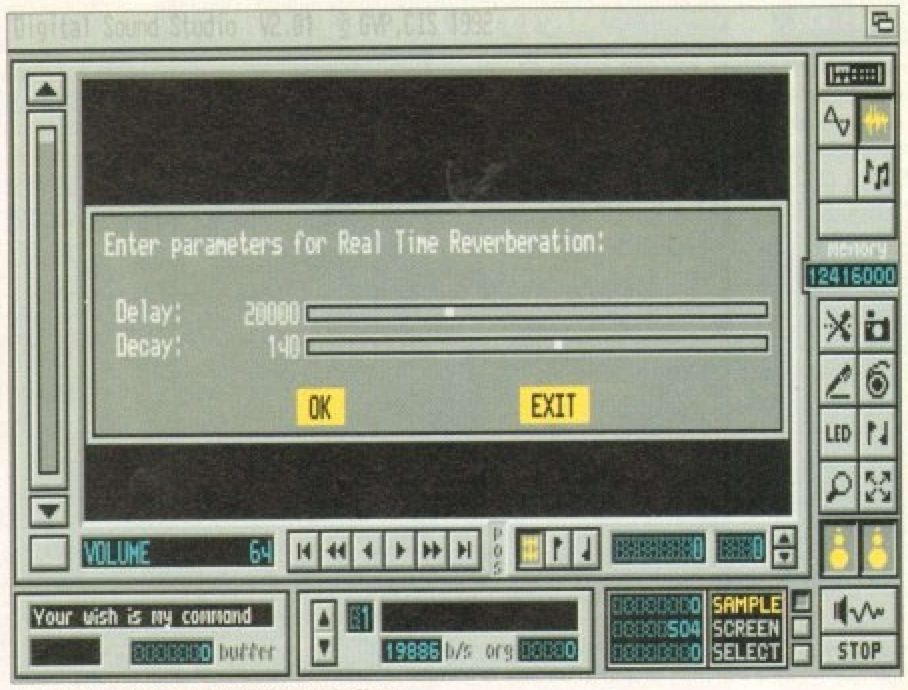
Once captured the program will ask for a title for the new sample and then add it to the sample list ready for editing or as an element within a tracker song. If you wish to continue sampling you simple select another slot in the list and repeat the process.

When the sampling is complete, simply pick a sound and move on to the editor – or perhaps straight to the tracker, if the sample doesn't require any touch-ups.

My only real complaint in the sampling department is the lack of an auto-record trigger which would kick in the record process whenever a predefined input level is detected – not essential admittedly, but quite useful on occasion...

Moving on to the Editor Module life isn't quite as idyllic with relatively few features in comparison to the better stand-alone sample editors such as Audition4.

To be fair, all the basics such as cut and paste, looping, magnifying, freehand editing, range marking, buffer control, mono/stereo and stereo/mono conversion await plus the essential sample merge. A reasonably impressive list, but it must be said some of the more subtle aspects of editing are at best difficult to achieve.



Initiating one of the included special effects

> *I must admit to being very impressed...*

Notables omissions include the inability to add additional workspace to a sample – a problem which tends to produce abrupt cut-offs when one of the few special effects are applied.

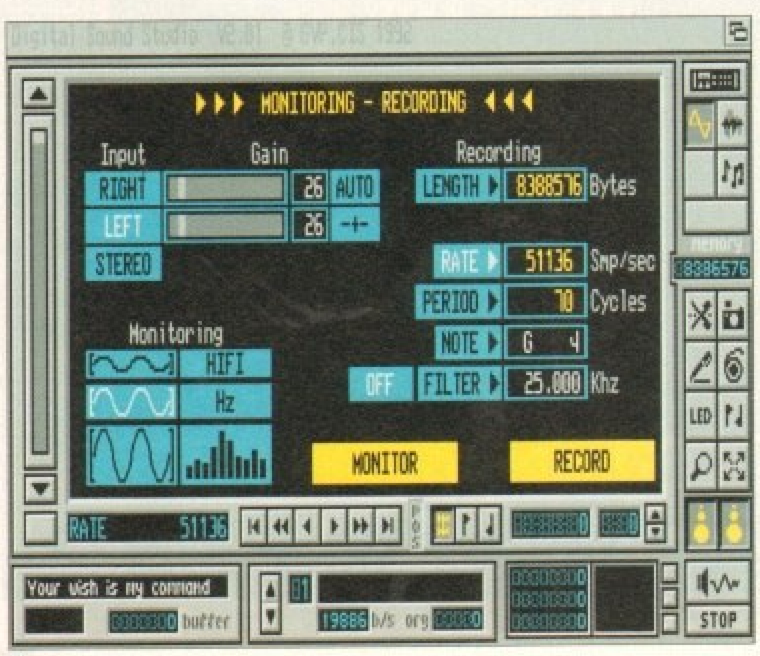
Others include the inability to edit individual channels in a stereo sample plus the rather disappointing lack of sample sequencing.

Even though direct point-and-click isn't available for things like additional workspace and channel editing, it must be said that they can be generated by using the sample list as a multiple buffer – copying and combining samples to produce the results you require. As for playback there's the usual selection of play range, screen and the entire sample while markers and loop points can be applied with the usual point-and-click and then fine tuned with tape deck-style icon controls.

Assuming your masterpiece is complete, savings out can be in either as a Sonix, IFF or Raw file in one, three or five octaves. And of course samples can be transferred to chip memory and then used in the tracker directly – thereby being saved as an element within a song module.

Even considering the odd disappointment in the software department, I must admit to being generally very impressed with a product that offers great sound quality plus a one-stop approach to sampling, editing and song construction.

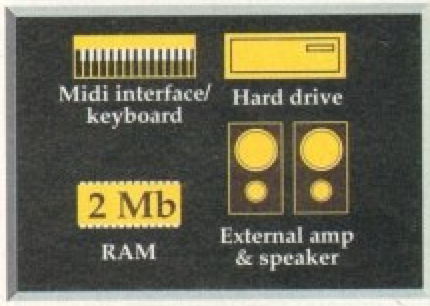
For those who take their sampling seriously I'd have no hesitation in recommending DSS8+, but it might be worth adding Audtion4 to enhance editing and perhaps Med Pro5 for sequencing.



DSS8+ has a very capable monitoring option

SYSTEM ESSENTIALS

RED = Essential YELLOW = Recommended



The bottom line

Product:: DSS8+
Supplier: Silica Systems
Price: £69
Tel: 081-309 1111

Ease of use 8
Implementation 8
value for money 7
Overall 8

Familiar tracker

Like the editor, the tracker is perhaps best described as basic rather than spectacular. For those who've used the innumerable tracker clones available both commercially and in the PD this one will be very much home from home.

Like the vast majority it boasts four tracks which employ a block system with which to construct tunes. Each block consists of 64 potential sample locations across each of the four tracks.

At each of these points a sample can be added along with one of eight special effects which either directly affect the sound or alternatively alter the entire sequence – a prime example being volume changes or perhaps the jump option which allows the rest of the block to be skipped, leaping directly to the block of your choice.

Like the editor and sampler, the tracker boasts direct access to the sample list via a small requester. To add a new sample to the song simply select the sound, pick a track and play in the notes, either via the Amiga keyboard or alternative by activating the programs Midi input option which allows direct input from the comfort of a real keyboard.

Of course you'll require a suitable keyboard and a Midi interface before the feature can be applied, but if you have the necessary hardware the option works very well indeed, providing a big improvement on the best efforts of its Qwerty counterpart.

USER DEFINED

Another pleasant touch is the addition of a multiple input requester allowing any sample to be replicated throughout the entire track, with a user-defined offset for spacing – ideal for drum tracks and general percussion.

As for the samples themselves, octaves can be adjusted by clicking on the mini keyboard icon to toggle them accordingly. Moving around the song is achieved by a combination of adjustable block counters and the large scroll bar on the left of the screen – which incidentally is used throughout the software to adjust numerically parameters so no tedious typing guaranteed.

The songs themselves can be saved out either as a simple sequences, a module for loading into other trackers or alternatively a standalone run-time module which can be executed directly from the CLI or its icon.

In short, the DSS8+ tracker is fine for the beginner but perhaps a little limited for the old guard who've already invested time in MED and the other more advanced trackers.

Rave in a box

This month's 8-bit sampling extravaganza continues as Paul Austin offers sound advice on Technosound Turbo 2

With the arrival of GVP's DSS8+, documented elsewhere in the mag, is there a place for yet another 8-bit sampling system? The answer to that is really dependent on what you're looking for.

For those purely interested in sound quality the answer is probably no. However there's more to sampling than just quality and if you're in the market for fun and flexibility TT2 is certainly in the running thanks to an impressive array of fun effects alongside power features such as direct-to-hard-disk recording.

Like the opposition, TT2 attempts the all-in-one approach, with sampling, editing and song construction all part of the package. On the hardware side, little if anything has change from the original release, with the same plug-in module as before offering two RCA/phono-ins on the rear providing either stereo or mono input – alas there's no mini jack input for a mic as found on DSS8+.

With the emphasis heavily laden towards the software, now's probably a good time to look at the power features that the program provides. Those who are familiar with the original software will have no doubt already spotted the most obvious change – namely the interface itself.



Working on a sample



Technosound's rather basic tracker

DIRECT TO DISK

Courtesy of a complete re-design, the program now offers customised pull-downs across the entire length of the main screen, and it's from here where you can get your first taste of the new features.

For many the most important of these has to be a feature unique to TT2, namely direct-to-disk recording, an option which as far as I am aware is unique in the world of 8-bit sampling.

Thanks to this innovation, memory restrictions can be a thing of the past – assuming, of course, you have a hard disk attached.

Not only does this mean you can record and play individual bits but also sample sequences, thanks to another new feature, namely hard disk sequencing. Thanks to this option you can append already sizeable samples into huge productions, all controlled by a special sequencer built in to the main program.

Like DSS8+, TT2 also boasts a tracker clone as part of its repertoire. Alas the tracker provided isn't exactly one of the high points of the package, offering only five special effects and fairly limited potential even when compared to the somewhat less than advanced alternative within DSS8+.



The fun but laughable real time effects

Again like its counterpart, TT2 provides a modicum of Midi support with the ability to play all four available tracks from a Midi keyboard – although each sound must be assigned to a separate channel. Obviously a suitable Midi keyboard and interface are essential.

Although TT2 suffers quite badly as far as sampling and its tracker are concerned, it nevertheless scores well when it comes to editing, offering the majority of the features which DSS8+ managed to overlook or at least do its best to hide. In addition to cut and paste, splice, add workspace and so on, TT2 also boasts a much wider range of effects such as variable delay, variable echo, variable synthesis plus more traditional edit options like maximise, soften, amplify, fade-in/out and so on.

In keeping with tradition, the program also provides a variety of real time effects, which as the name suggests take a live signal and process it – you can choose from echo, delay, phasing, pitch up/down, sweeps, synthesis or ramping.

Alas every sampling system has made an unspeakable mess of real time effects in the past and TT2 is no exception. Aside from being mildly amusing for a few seconds they're almost entirely useless thanks to the horrendous amount of background noise which accompanies the processed signal – a feature which again highlights the limitations of the attendant hardware. However, if you feel the need to exploit the option, real time effects do have the advantage of presets for each effect which can be saved out as a default.

In a similar vein to the above comes Fun Time – but unlike the real time offerings, Fun Time effects are all predefined and cannot be edited by the user.

To give you a taste of what Fun Time is all about, the titles alone should be more than enough to explain the basic principles: Pinky and Punky; Sex Change; Deep Sea Diver; Alien; Top Gun; Chopper; Dark Vader; Bruno; Awful the Duck and the Unforgettable Nightmare on Oak Street...

As you've probably guessed, TT2 is much more of a fun package than a serious attempt at getting the best from 8-bit samples. As mentioned earlier, record quality doesn't match that of DSS8+ and isn't likely to with the existing hardware.

The tracker again is a little disappointing but it must be said that the editor is more than adequate. Combine this with the unique ability to record and play direct to and from a hard disk and it could have its uses.

AC

Upgrade paths

As you've probably guessed, all refinements are strictly software-based and as a consequence New Dimensions are offering are fairly attractive upgrade path for existing users.

The new software and manual can be yours for just £15 plus £1 for postage and packaging – however proof of purchase must be provided.

Alternatively the company are offering a software-only deal to new users – which includes the manual – for £29.99. If however you decide to go the whole hog and splash out on the complete system including hardware, the price leaps to a rather alarming £49.99.

Product: Technosound Turbo 2
Supplier: New Dimensions
Tel: 0291 690933
Price: £49.99

Ease of use 8
Implementation 5
Value for money 6
Overall 6

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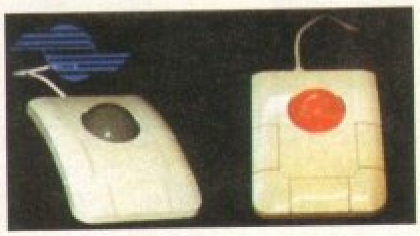
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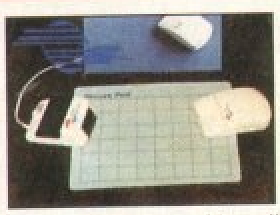
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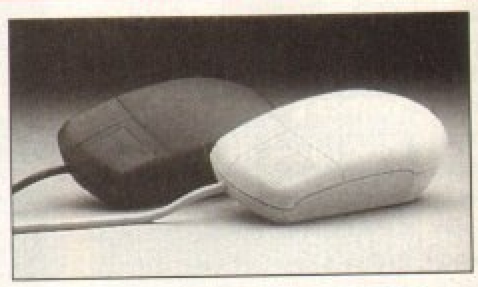
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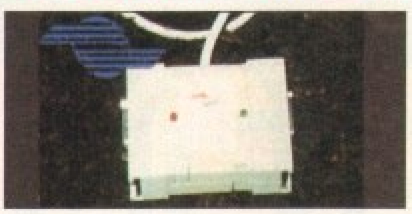
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Access SWITCH VISA



Jim Sachs created this incredible Amiga artwork using the registerVersion of Brilliance in 256-colour mode

Brighter than

The future for Digital Arts' long-awaited paint package Brilliance is so dazzling that Denny Atkin had to don his shades for this world exclusive review

When a program is delayed as long as Brilliance (it was originally supposed to ship in November 1992) people's expectations have time to build exponentially.

Usually a long delay means that it will either be a buggy disappointment, or an incredible feat of software engineering that was well worth the wait. I'm happy to report that Digital Creations' Brilliance is an example of the latter.

Brilliance is billed as "the new standard in Amiga paint and animation in millions of colours". The program is so fast and flexible that it makes its Amiga predecessors feel like the old Doodle! program on the Commodore 64.

What makes Brilliance special? Is it the full AGA support? The outstanding animation capabilities? The multiple Undo/Redo feature? Well, yes, all of those things help make it (sorry, have to say it) brilliant, but its biggest advantage over other paint programs is speed: The program is more than five times faster than Deluxe Paint IV AGA at many operations.

In the Brilliance box you'll find three disks, a 175-page manual, a set of serial number labels and a hardware dongle key. Before you can get started, you'll need to enter your serial number in the Brilliance program icons to key the program to your dongle.

There are actually two Brilliance program files: Brilliance, the register-based version that supports up to 256 colours; and TrueBrilliance, the true-colour version that supports HAM modes.

The interfaces of the two versions are nearly identical, with only minor changes where a particular feature isn't appropriate to that graphics mode. The third disk includes a few sample and tutorial pictures, as well as a number of example colour palettes.

The program will run on all Amigas, whether they're running Workbench 1.3, 2.04, 2.1 or 3.0. Although it supports the AGA chips, it will work fine on original chipset and enhanced chipset machines as well.

Brilliance uses a bottom-of-the-screen control panel interface similar to that found in SpectraColour and DCTV Paint. The main panel sports a palette selector across the top, six submenu selection gadgets at the left, and 24 paint and palette tool gadgets to the right of those.



The control panel pops up in front of your brilliance picture and can be toggled on and off with the spacebar, F10 key, or middle mouse button

Thirty gadgets labeled with little symbols might seem overwhelming at first, especially considering that many of them have up to three different toggleable functions and no labels, but Brilliance provides real-time help updates.

A small blue box at the right side of the control panel always displays the function of the gadget under the mouse pointer, so you'll never select the anti-aliasing gadget in an effort to create a polygon.

You'll need to get used to using the right mouse button in a non-standard way – Brilliance has no pull-down menus. When you're painting, the program uses the right mouse button to paint in the background colour, just like DPaint.

When using the button panels, the mouse button is used to pull up subpanels – additional panels packed with controls that appear below the main control panel.

Panels can be stacked until the screen fills up vertically, so you can have, for example, the AnimBrush and Brush panels open simultaneously.

Even better, you can assign up to nine custom sets of panels to the numeric keys on your keypad (except, obviously, on the A600), so you can group tools that you commonly use together.

If you're moving to Brilliance from DPaint, you'll be happy to know that the keyboard equivalents for the gadgets are the same as those for their DPaint counterparts.

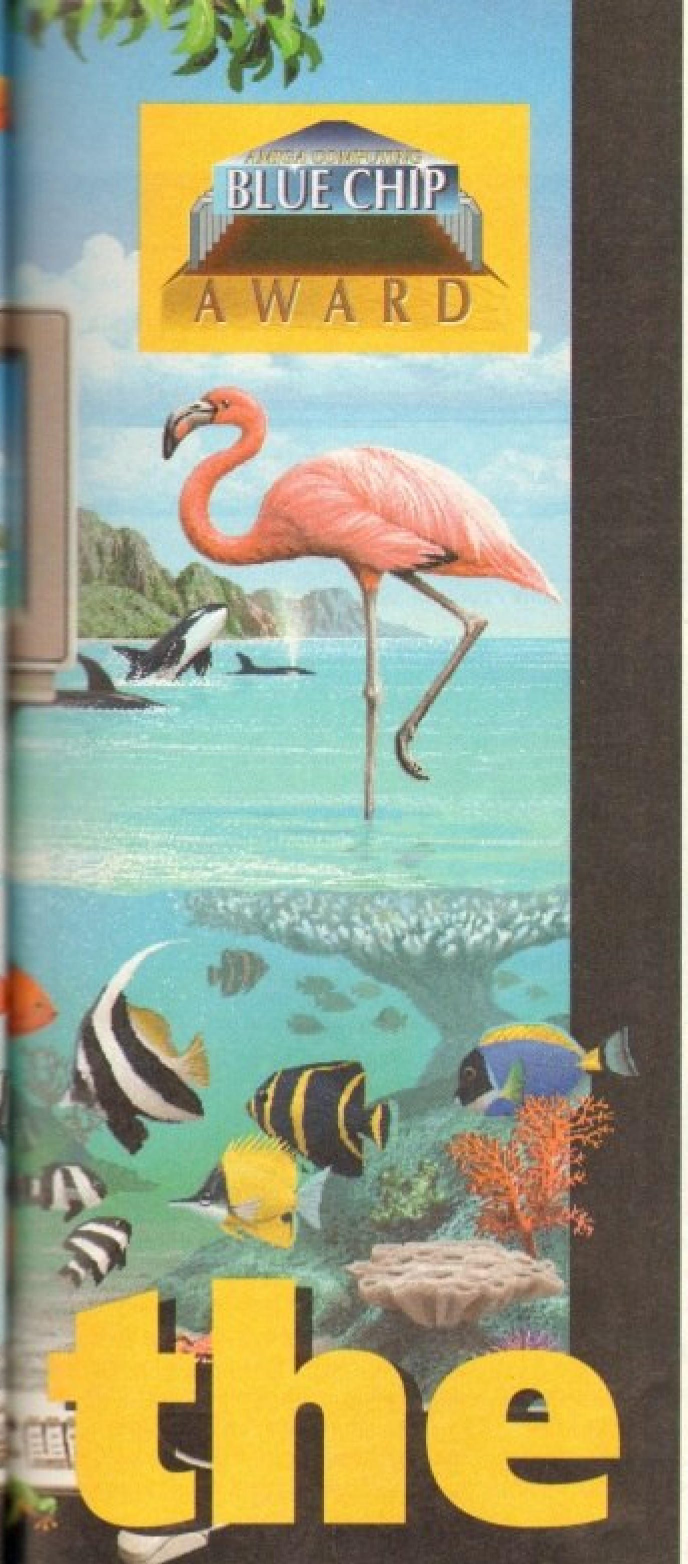
Three buttons

For instance, you can get rid of the control panel by hitting F10. An easier way to get the panel out of the way is to use the spacebar, but by far the best way is to buy a three-button mouse and take advantage of Brilliance's middle mouse button support.

It's easy to paint when you can hit the middle button, select a tool, hit the middle button again, and then hit the left button to paint, with one hand staying on the mouse and the other free to hold a beverage of your choice.

Although this panel interface may take a while to adjust to, it works very well in practice, and you don't have to deal with the corners of your picture being covered by control panels and a title bar.

And if you want to edit your picture



Getting things moving

The real fun comes with Brilliance's AnimBrushes. These are brushes consisting of a series of frames which can be used to draw with an object that changes as you paint it across the screen, stamping a changing object down on an animation.

You can create animbrushes by picking them up from an animation (more on animations in just a moment), or by morphing one brush to another.

While Brilliance's Morph effect isn't in the same league as what you'd find in a product like Morph Plus or ImageMaster, it does produce significantly better results than DPaint. Brilliance morphs brushes in two dimensions, while DPaint morphs in one dimension and squashes in another.

The Tweening menu is similar to DPaint's Move requester and is used for moving an object between a starting and ending point on an image, or more commonly for moving objects in animations.

You can type in starting and ending X, Y, and Z positions and rotations for a brush, or use the Adjust gadget to manually place the object on the screen.

The Adjust gadget takes the trial-and-error out of object placement and makes creating smooth, precise object movements a snap.

Unique to Brilliance are some dramatic special effects available on the Tween menu: You can assign different percentages of opacity to a brush at the start and end of an in-between movement so that object will appear to fade in or out of the image as it moves; you can also have objects leave trails behind them, and choose to have those trails automatically decay, leaving a comet-like effect.

The Ease controls let you change the speed of an object as it moves; for instance, you can make it appear to move faster as it gets closer. Brilliance lets you control the level of Ease in the X, Y, and Z planes individually.

You can also use Ease to control opacity level at particular points of the movement. The Lens control lets you change the viewing angle of the camera pointing at the brush, similar to DPaint's Perspective feature.

Brilliance is as good a 2D animation program as it is a paint program. It has a full set of VCR-like animation controls and all the animation features of DPaint (well, except for the LightTable onion-skin feature, which was so slow as to be of questionable usefulness anyway).

When it comes to animation editing, Brilliance packs incredible power. You can copy entire ranges of frames from one spot in an animation to another.

Even better, you can load multiple animations, appending one after another. Animations can be saved as a series of individual frames (in 24-bit IFF if saving from TrueBrilliance), or in ANIM Op-5 or Op-8 format. The Op-5 format is compatible with older Amiga software and provides the best compression, but Op-8 provides faster playback, especially on accelerated Amigas.

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and keep the control panel visible, that's no problem. You can use the cursor keys to physically move the canvas around, so you can place the bottom of the picture just above the top of the control panel.

Screen resolutions (and the number of colours available in those resolutions) will vary depending upon which graphics chips you have in your Amiga. Resolutions up to 640 x 512 are supported on original chip set machines, up to 1,280 x 512 on ECS Amigas, and up to 1,280 x 512 and 800 x 600 on AGA machines.

If you're running AmigaDOS 2.1 or later, Brilliance uses the ASL screenmodes requester to select resolutions, which means you can even use the really bizarre modes such as 160 x 1,024.

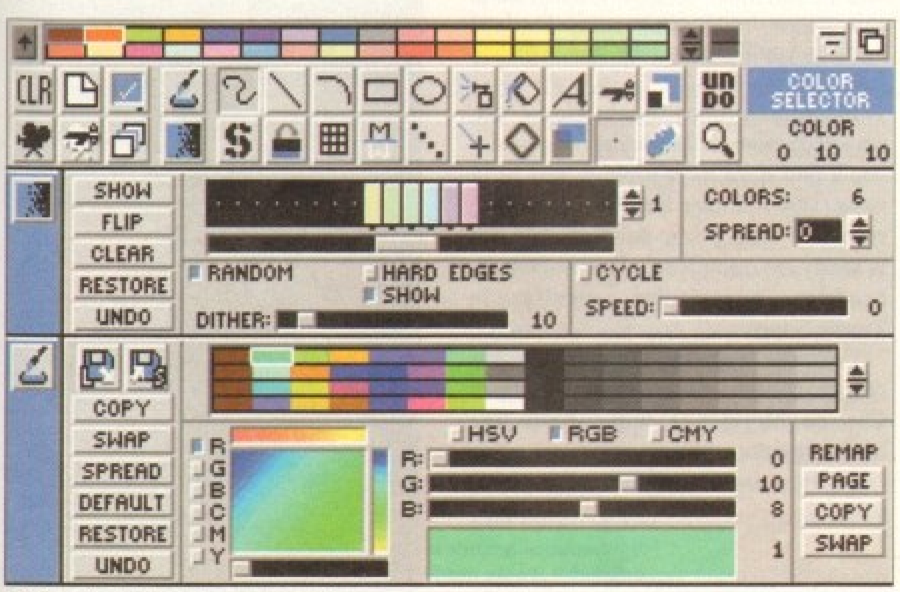
Four different levels of overscan are supported, and Brilliance supports scrolling canvases larger than the screen, the size limited only by available memory.

One particularly handy feature is Brilliance's support for multiple buffers. Along with a main canvas and a swap screen (*à la* DPaint), Brilliance also lets you open any number of additional buffers, again limited only by available memory.

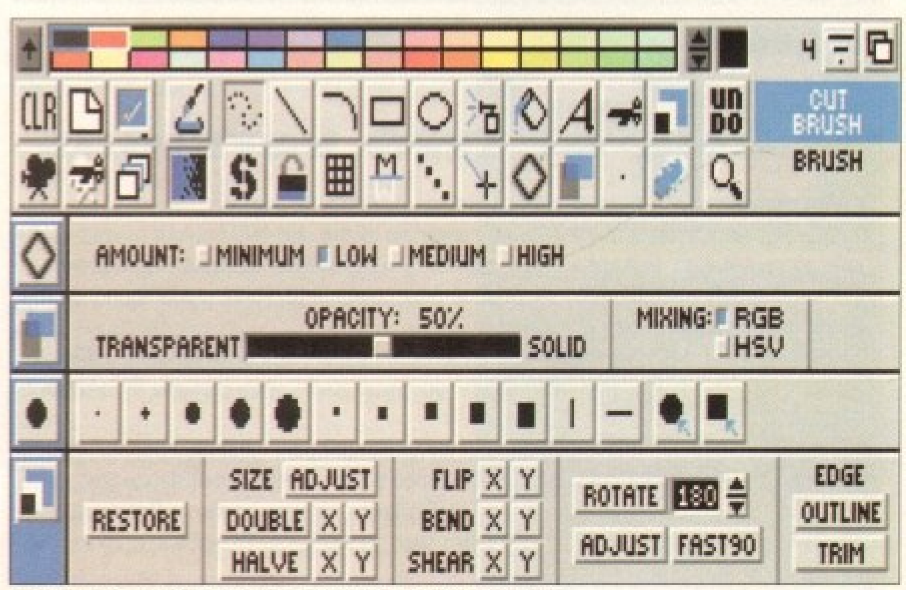
The only restriction is that all the buffers need to be the same size and colour depth. This is very handy for creating collage effects by cutting and pasting elements from a variety of pictures, and for trying different effects on various screens to see which ones you like best.

OK, you've got your canvas all set up and your paints mixed, now it's time to create some art! Brilliance provides all the tools you'd expect from a professional

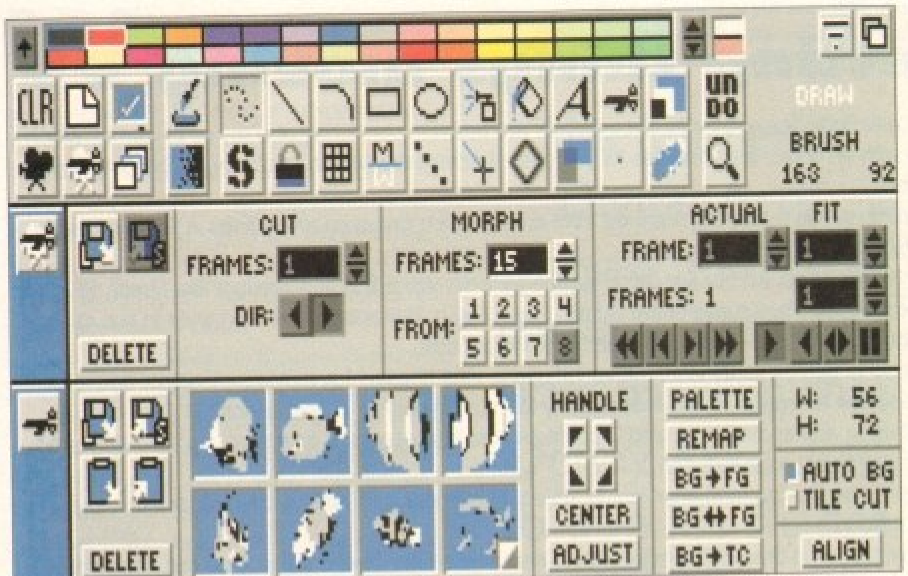
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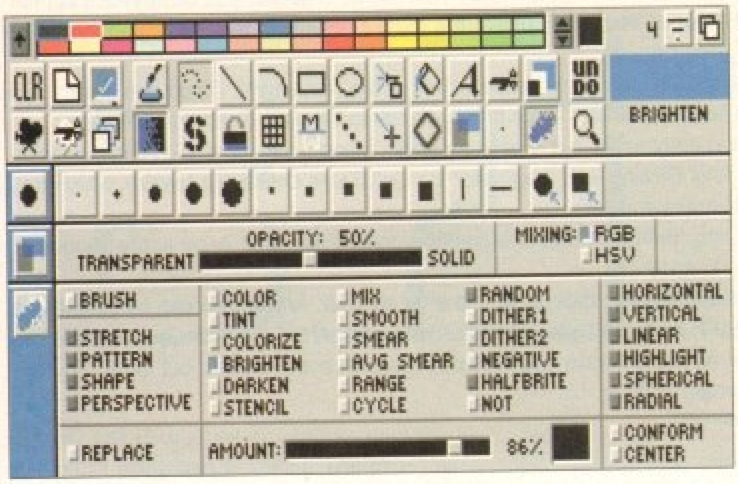
Brilliance's palette and range requesters



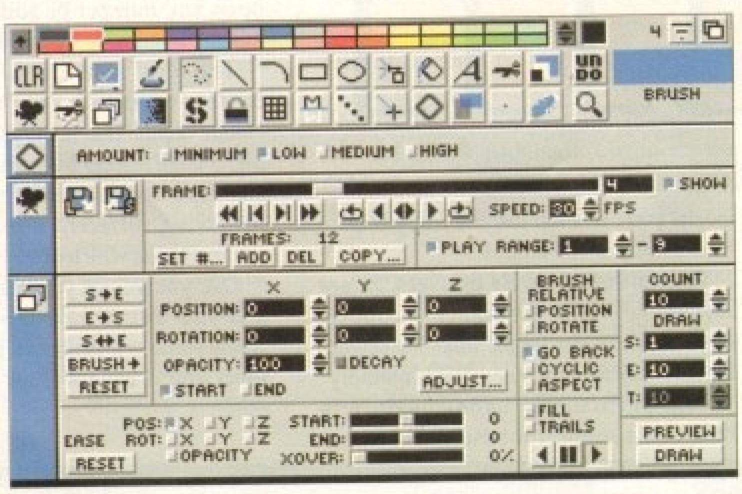
Anti-aliasing, opacity, brush size, and brush distortion controls



Brilliance's brush and animbrush control panels. Note the eight brush storage wells at bottom



Brilliance offers a wide variety of drawing modes



Brilliance's anti-aliasing, animation, and tweening control panels are shown here

A tale of two versions

As mentioned earlier, there are two versions of Brilliance included, each on its own floppy. The register version of Brilliance supports all the non-HAM colour modes available on your Amiga, including Extra Halfbrite. TrueBrilliance supports Ham6 (the original six-bit HAM specification) and Ham8 (the newer 8-bit HAM mode found on the A1200 and A4000).

TrueBrilliance will load regular IFF pictures with any number of colours, HAM pictures, IFF24 true-colour files, and DCTV graphics. It will save pictures in HAM and IFF24 formats.

Register Brilliance will only load and save standard IFF pictures with up to 256 colours. This means that you can load Brilliance pictures into TrueBrilliance (they'll be converted to Ham), but you can't bring TrueBrilliance pictures back into Brilliance without using a third-party conversion program such as ADPro or Rend24 to map the picture down to 256 or fewer colours.


This coin animbrush was created using Brilliance's Tweening menu

➤ paint program, along with some interesting new painting modes.

Many painting tools offer different modes: Click once on the Draw tool with the left mouse button to choose a connected freehand line, click again to choose a filled freehand shape, or one more time to choose freehand dotted draw.

Some tools have a settings menu panel that pops up when you click the right mouse button on them. For instance, clicking the right button on the Rectangle tool brings up a panel that lets you choose whether rectangles should be sized corner-to-corner or center-to-corner.

If you've used other Amiga paint programs, you'll find the drawing tools work as you'd expect, but many have additional features. For instance, along with the standard curved line, you can also choose to draw a four-point Bezier curve.

Airbrush

As usual, the airbrush tool will spray single pixels or splatter a custom brush onto the screen, but it will also spray down paint in the shape of the current brush, using it as a mask.

As you experiment with the tools – and do goofy things to your picture – you'll come to appreciate Brilliance's Undo/Redo feature.

The program will undo multiple operations, up to the size of a user-definable Undo buffer. So you can, for instance, click Undo three times to remove the last three painting steps.

If you've ever done something you regretted to a picture and then accidentally placed one more pixel on the screen, ruining your chances to undo the first mistake, you'll realise why this is a great feature.

In addition to the usual Colour, Mix, Smooth, Smear and Cycle drawing modes you'll find some more sophisticated additions. Tint will alter the chroma (colour) content of areas you're painting over; this is handy for colourising pictures, and can produce spectacular results in TrueBrilliance.

Colourise is similar, but it changes the colour content of areas that contain Chroma information, without affecting black, greys, or white.

Brighten and Darken are self-explanatory. Two dither modes are handy for screening areas of the canvas, and for overlaying areas with a dithered pattern that allows the paint under to show through the pattern.

Brilliance also supports transparency values of 0 to 100 per cent; you can create ghostly images, or set a high transparency for a brush you stamp onto the background of an image to give it a distant, hazy effect.

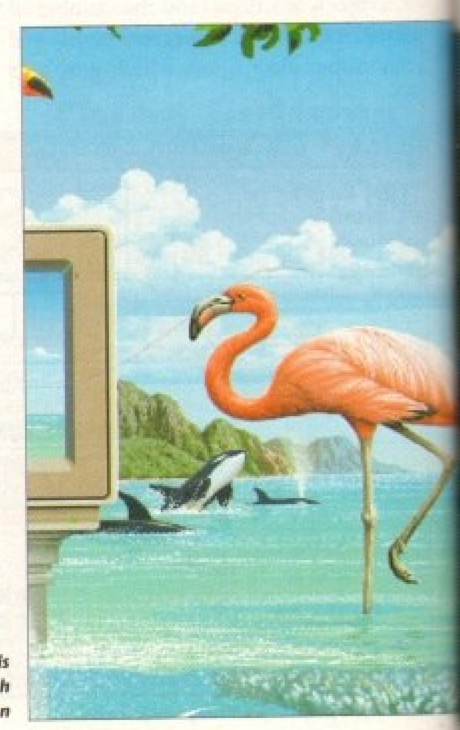
Negative mode changes every colour to its opposite, giving the appearance of a photographic negative. I've created some spectacular effects with this mode. I only wish Digital had included one of the most useful modes from their DCTV Paint program, namely Rub-Through.

The text tool supports both bitmapped (normal and ColourFont) and Compugraphic outline fonts. Unlike DPaint, you don't type text directly on an image, but rather into a text gadget. Brilliance creates a brush containing the text which you can stamp on the image.

Although this can be quite tedious for multiple lines of text, it does make it easy to use Brilliance's brush effects to enhance your text's appearance.

Brilliance makes working with custom brushes a pleasure. Right-clicking on the Brush tool to bring up the Brush menu displays eight brush wells, boxes that can store a brush or AnimBrush until you need it next.

You can grab a number of images from


The Magnify mode is adjustable in both width and magnification



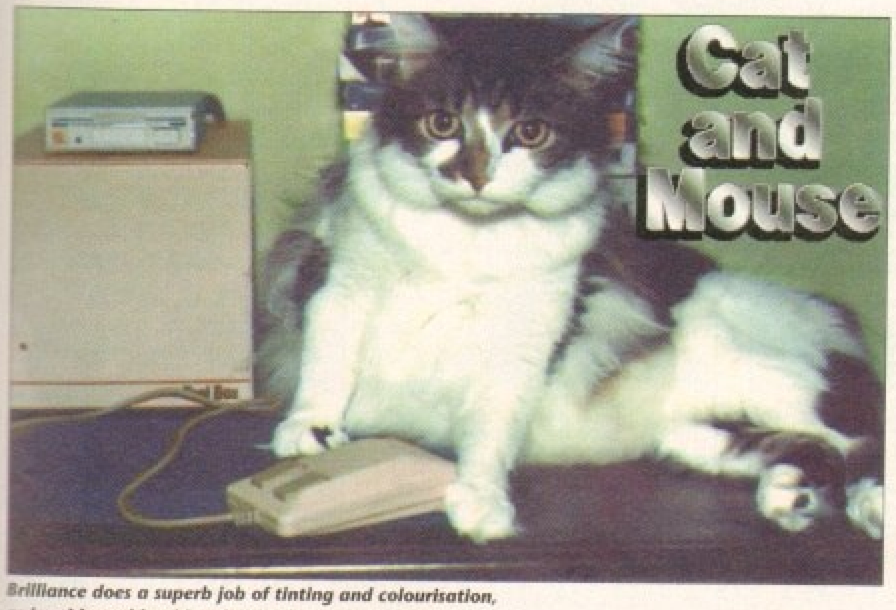
Dodgy dongle

The dongle key plugs into your second controller port and doesn't pass through the port, meaning you'll need to power off your Amiga to install it if you normally keep a joystick plugged in.

It will work on the end of Scala's dongle, but if you're a Real 3D 2.0 user you'll have to swap dongles when you change programs.

Also, the dongle doesn't fit in the A600's port, so if you have Commodore's smallest Amiga you'll need to purchase a joystick extender cable and plug the dongle into that.

Unless you never use your second port for anything else, you'll find the tiny dongle to be a pain to keep track of. If Brilliance weren't so good, I'd stick with DeluxePaint IV AGA simply because of this inconvenience, but the power of Brilliance is enough to make the dongle tolerable.



Brilliance does a superb job of tinting and colourisation, as is evidenced by this colourized grey-scale picture

one picture, store them in the brush wells, and then select them individually to stamp down on another picture. Picking up brushes is a snap thanks to Brilliance's Auto BG feature, which will treat the colour around your brush as the background colour if the four corners of the brush are all the same colour.

That way you can pick up a brush off an orange surface without picking up the orange, even if the selected background colour is black. Brushes can be saved to or loaded from the system clipboard; I used this feature to transfer brushes from Brilliance to TrueBrilliance and to DPaint IV AGA.

In keeping with the program's DPaint compatibility, you'll find the usual assortment of bend, outline, and warp operators for modifying your brush's size and shape.

Brilliance is so packed with features that I could probably fill this entire issue with one long review of it. Suffice to say that if you've used DPaint, imagine a program that has a similar set of features, but does everything faster and with more control and flexibility.

Like DPaint AGA, TrueBrilliance supports loading IFF24 pictures. But when you load such a picture into DPaint, it gets converted into a Ham8 version and much of the detail and colour information is lost.

When you load a 24-bit picture into TrueBrilliance, the program keeps a full 24-bit (16 million colours!) copy in memory if you're short of RAM, you can choose to store a 15-bit, 32,768-colour representation in memory instead).

Although you're viewing it in HAM, complete with the occasional subtle on-screen fringing, you can save the picture in full 24-bit format, losing no detail or colour data, and with no fringing present in the 24-bit representation.

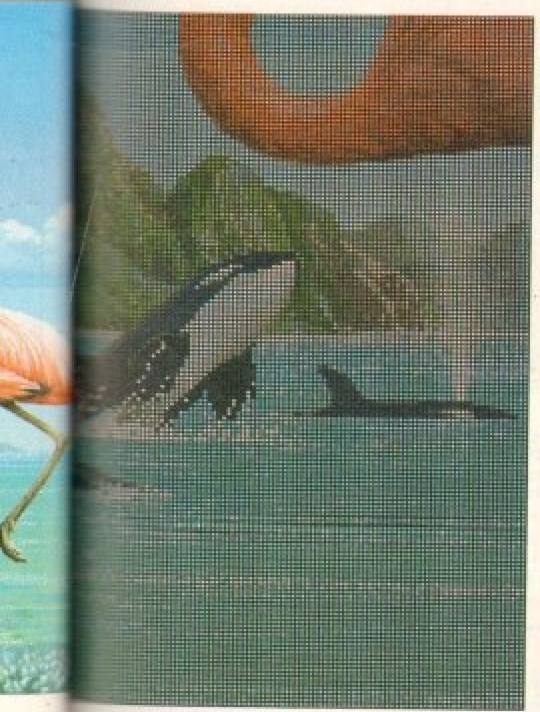
This is handy for doing simple touch-up work or adding text to 24-bit images. While DPaint and Brilliance share a similar interface for creating colour-fill ranges, with Brilliance you can have up to 32,768 colours in a range.

Most of the other features are more powerful as well. You can create Stencils in Brilliance not only by choosing specific colours or drawing the stencil manually, but also by lassoing a specific range of colours on your image.

The Variance settings let you include any colours within a certain percentage of your selected colour's hue, saturation, and value in a stencil, making it easy, for example, to select all skin tones in your stencil.

Brilliance's Magnify mode is more easily adjustable – you can slide the magnify window to the right or left depending on how much of the original image you need to see, and zoom in and out using gadgets on the bar at the edge of the magnify window.

And while DPaint provides some control over printing values, Brilliance gives you the full suite of Preferences-style printer control gadgets, so you can select scaling, dithering, density, smoothing, and other settings without having to flip back to the Workbench.



DCTV

There's still more to recommend this program. If you have a DCTV, for instance, you can use the register version of Brilliance to assemble still frames into DCTV animations. TrueBrilliance will load DCTV pictures and convert them to 24-bit format so you can edit them in HAM mode.

I've saved the best feature for last, though – Brilliance's speed. Both the register version of Brilliance and TrueBrilliance are blazingly fast.

Other programs slow to a crawl in HAM mode, but TrueBrilliance in Ham8 feels as fast as DPaint does when you're only using 32 colours.

The Real-time Preview Mode feature actually draws effects on the fly, so you can see what the results will be before you stamp down a rectangle in, say, Negative mode.

And you'll be amazed at how quickly you can move custom brushes across the screen. While DPaint may update a brush two or three times a second (at best) as you move it in Ham8 mode, the brush smoothly follows your pointer movements in both Brilliance programs, no matter what mode you're in.

Operations like fills are dramatically faster – a gradient fill with highlight took a minute and 52 seconds using DPaint 4.6, but only 42 seconds in Brilliance. The program isn't without a few omissions and flaws. It would have been nice to see "magic wand" colour selection like in PhotoShop and ImageFX, and a colour-mixing area like DPaint and Digital Creations' own DCTV Paint have.

Although the 175-page manual has a well-written, thorough reference section that will answer any question you have about a particular feature, many of the program's major features are glossed over and ignored in the too-short tutorial section.

And as mentioned early on, the inability to bring TrueBrilliance pictures back into the register version Brilliance will be a pain for those who don't own something like ADPro.

There's no support for display on third-party 24-bit graphics cards, although you can save 24-bit images and use the software included with your card to display them. And of course, there's that darned dongle.

These minor gripes aside, if you use your Amiga for professional graphics, or Amiga art is your favourite game, you'll want Brilliance.

Nothing out there can match its feature set, and it's the one paint program I've used that's so fast that it never gets in the way of your creativity. Digital Creations' biggest problem with this program is likely to be figuring out what they could possibly add to come up with a Brilliance 2.0. AC

SYSTEM ESSENTIALS

RED = Essential YELLOW = Recommended

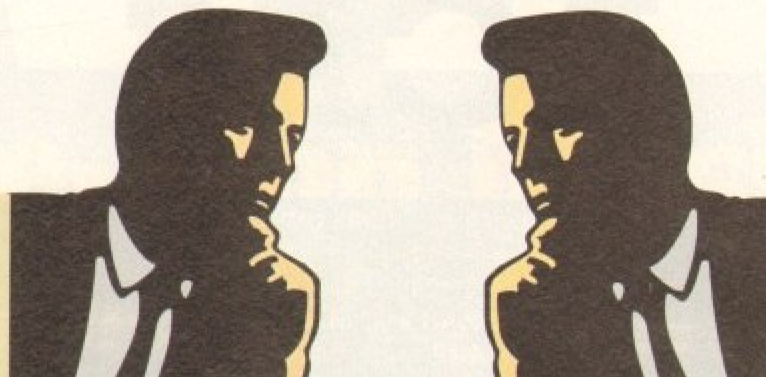
2 Mb RAM	Two floppies required
4 Mb RAM	Hard drive

The bottom line

Ease of use: 9
Implementation: 9
Value for money: 8
Overall: 9

Supplier: (US) Digital Creations
Phone: 0101 916 344-4825
Price: $249

Beginners' questions galore this month with advice on dodgy drives, A1200 compatibility, using CoverDisks and more



ACAS

AMIGA COMPUTING ADVICE SERVICE

RAM and printers

My sons have an Amiga 500 and a Citizen Swift 9 colour printer. The printer manual recommends that the printer driver should be Epson FX-850 or LX-850. The printer driver they are using is EpsonX[CBM_MPS-1250]. Is this correct and would either of the other drivers give a clearer or faster printout, especially colour graphics?

I enclose a copy of the DIP switch settings which I set for them. The printer does work but would they be getting the best results with the above driver and enclosed DIP switch settings?

After using Bars and Pipes Junior, on your free disk, my older son wishes to upgrade to 2Mb. I have read all the advertisements and notice there are two choices. One is to add to the existing 1/2Mb upgrade, the other to fit a complete 1.5Mb board.

I notice that to add to the existing 1/2Mb upgrade it must be four x RAM-chip type or not exceeding 9cm in length. I do not know if the existing board is 4 x RAM-chip but it has four chips and measures 8.5cm by 9cm so would this be OK? The advertisement also states that both expansion boards require Kickstart 1.3. Is this the same as Workbench 1.3?

G Cook, Kent

The printer output can be improved by using the EpsonX driver which is supplied with your Amiga. Generally speaking, this driver should be used with 9-pin printers, using Epson emulation, while the EpsonQ is used with 24-pin printers. The settings that you sent are fine, so it is just a matter of changing the driver.

By the way you have described your existing memory expansion, it has four RAM chips so it should be fine with the 1Mb trapdoor expansion that you have seen. Workbench is the front-end of the Amiga's operating system, the part that allows the machine to be controlled by a user – in other words, the window and icon environment that we all use.

Kickstart is a ROM chip that contains most of the routines used by the Workbench. Therefore, if you have a Workbench 1.3 machine, you will also have Kickstart 1.3.

The Megaboard, which connects to the trapdoor 1/2Mb expansion, is compatible with both Kickstart 1.3 and 2 but not with Amigas that have 1Mb chip RAM.

It is available from Evesham Micros who can be contacted on 0386 765500 and who have a technical support line on 0386 769403.

Write-protected InfoFile

Please help me with my problem. In issue 61 (June) you gave away Infofile but I am having problems. I can set up my columns and input my data all right but when I try to save my file, which I have titled, I get a message saying unable to save file disk must be write-protected or something, but it isn't. Please help!

Also, in issue 62 (July), you received a letter from David King of Markham stating a problem he had with his MPS 1270 printer. This is easily solved as I did with a quick call to Commodore helpline. Just alter the DIP switch number 8 from what the reference manual says.

Anthony Rawlinson, Wigan

There is a Kickstart bug in all Amigas from Workbench 2 onwards that tricks the machine into thinking that all disks are write protected.

If the disk used to boot the Amiga has been write protected the operating system is fooled into thinking that all disks are write protected even when they are not. The solution, therefore, is to write enable the disk that you are going to boot from before booting.

Thank you for the information about David's printer. We have just received another letter from him, desperate for some more help, so I think your words of wisdom will make him a very happy man.

Cribbage

As a reader and a subscriber since issue number one, I was interested in the letter from S Woolan of Stowmarket. I looked up my copy of the disk in question, made a copy of the Cribbage program to which he refers and am enclosing it herewith.

Perhaps you, for your part, would be good enough to pass it on to him. I am not a card player but did think that it looked an excellent representation of the card game.

I would mention that I am in my 79th year and get a tremendous amount of pleasure from my computer and of course, your excellent magazine.

Mr V Eva, Lancashire

Many thanks for sending the copy of Cribbage to us. We have forwarded it to S Woolan and are grateful for your kind assistance.

At 79, you set an example to all those people who wrongly believe that they are too old understand the world of information technology. We wish you many more years of happy computing.

NTSC bug again

The enclosed disk contains a far better answer to Mr Ricketts's problem with the old Workbench1.3 bug – the one that causes a PAL machine to boot NTSC every ten or so attempts – than the offhand one you gave him. It's the program NoPALReset.

Make it the first call in a WB1.3 startup-sequence and it avoids the time wasted grinding all the way through a long startup to finish with the wrong format.

It's only 236 bytes long so there's room in even a very tight c: directory.

The disk? Oh that's your No 8 (Jun 90). I've copied it for you as I get the impression you haven't seen all your own CoverDisks.

Perhaps it would be worth winnowing through them and repeating a few of the "can't do without it" programs – there haven't been so many lately!

Ken West, Kent

You are quite right Ken, some of us haven't seen all of the Amiga Computing CoverDisks which is why we failed to provide a more helpful answer.

At the moment, there is a policy to put complete versions of commercial packages on the CoverDisk rather than fill them with public domain utilities. We believe commercial programs are more popular with our readers and represent better value for money than PD.

Having said that, we are always open to suggestions and would like to hear from anyone with strong opinions about the CoverDisk.

CoverDisk de-archiving

I have been experiencing some difficulty in de-archiving some of the disks featured on your magazine. I have followed the instructions to the letter and on each occasion, when the computer prompts me to insert a blank disk, I get a system message informing me that the disk in DF0: is write-protected. I then check the disk and find that it is not.

I have tried and tried to get round this

➤

Guru meditation

I have recently purchased an A600 and, as a complete beginner, am keen to work my way through the Workbench and other tutorials supplied. However, I constantly get software failures which makes this extremely slow and frustrating.

I was advised by the Amiga helpline to buy a new mouse, which I did, but this has had no effect.

Can you give me any advice to stop this happening every few minutes as I am close to giving up.

Lorraine Smith, Stockport

By the sound of things, you may have a virus on one or more of your disks. To eradicate it, you need to use a virus checker such as or Zero Virus, BootX or Virus_Checker which are available from all good PD libraries. It is vital to check all your disks to be sure of killing it off completely.

Viruses are malicious programs that are self replicating and very annoying. They are written by sad people who have nothing better to do with their lives than find new ways to beat virus checkers in order to do such things crash other people's computers and wipe their hard drives.

If, having checked for viruses, you still find that your A600 keeps on crashing then it is in need of repair.

CineMorph Junior fix

We gave away CineMorph Junior with the August issue of *Amiga Computing* and despite much brain-wracking, we could not find any way to make it run on Workbench 1.3 machines.

However, one of our readers, John Cook from Portsmouth, has found a fix to make it compatible.

Once the program has been de-archived onto its own disk, the asl library must be deleted to make CineMorph junior run. In order to do this, boot from your Workbench disk, open a shell window then enter the following line:

```
delete CineMorphJr:libs/asl.library
```

Having done that, insert the CineMorphJr disk in DF0:, reboot and you should find that the program now runs. Thanks for phoning up with the solution John, we are extremely grateful.

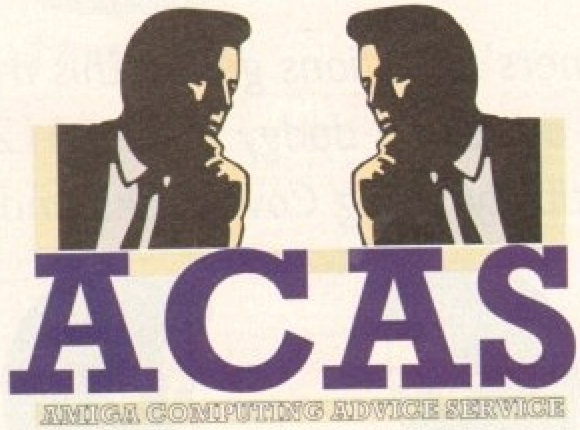
➤

problem but to no avail. Do you think that I may have a virus in my computer or is there another reason for my difficulty?

Mr R Clarke, Doncaster

This has to be the most frequent problem encountered by our readers. Every Thursday, when we man the CoverDisk hotline, a stream of baffled readers ask us how to unarchive programs from our disks.

If you have just read the previous answer, you will know that the problem is caused by a Kickstart bug in all Amigas running Workbench 2 or higher.



Normally, we wouldn't include two problems in ACAS that are so similar but we felt that in this instance it would be highly beneficial.

In order to use our CoverDisk on Amigas running Workbench 2 higher it is necessary to write enable it (so that the tab covers the hole) before using it to boot your Amiga.

We do, in fact, print a special panel on the Getting Started page about de-archiving. This includes the above information, but it is surprising how many people fail to read it.

Of course, the root of the problem lies with Commodore so if you find the bug as annoying as we do, drop them a line. You never know, they may decide to fix it one day!

You got problems too? Then drop a line to Amiga Computing Advice Service, Europa House, Adlington Park, Macclesfield SK10 4NP and we'll move heaven and earth to help in these columns. But sorry, we cannot reply personally, so save those SAEs.

Musical musings

Probably like many other Amiga 500/500 Plus owners I am seriously considering upgrading to either an A1200 or A4000/030. But not having a money tree growing at the bottom of my garden I would like a few questions answered before I invest in my next generation of Amiga.

As I mainly use my machine for music (60 per cent), graphics (20 per cent), games (ten per cent) and other (ten per cent), my questions are thus:

1. Does OctaMED run better in eight-channel mode (without the loss in samplè quality as on the A500) on the new Amigas due to their faster processors?

2. Would it be possible to use two Amigas (somehow synced together) until such time as Commodore pull their finger out and give us more than four channels of 8-bit sound on true 32-bit machines?

3. If the answer to 2 is yes, how could I best do this and what hardware (except another Amiga!) would be needed?

4. Is it possible to use a PC/PC clone VGA monitor with any of the Amiga range?

Mr S J Smith, Colchester

1. OctaMED is smoother and there is no degradation of sound quality on the new Amigas.

2. Yes.

3. To synchronise two Amigas an external time code generator is required. Zone Distribution have one by the name of The Phantom which works with KCS 3.5 while Blue Ribbon have a similar device that can be used in conjunction with Bars & Pipes.

4. VGA monitors can be used with AGA machines but it is not possible to access all of the screen modes. In particular, it is not possible to access the boot screen, PAL modes and custom screens. Clearly this is very restrictive and a dual sync monitor such as the Commodore 1942 would be a much better option.

Monitor interference

I have an A500 Plus and a Commodore monitor, model 1081, and every now and then I get interference on the screen. I checked the cable and even switched the computer off for long hours and checked the power supply to ensure that I wasn't using too many plugs in the house at one time. Normally this clears up after two days rest to the computer and I thought it might be connected to the room temperature as it's only the monitor that seems to be affected.

My first thought was that using a 1Mb computer over long hours could affect the memory even when given the boot up first. My Workbench is v2 ROMs (37.175). Should I get a 1Mb expansion to upgrade to 2Mb or is it related to the monitor?

I get this problem during the summer when the weather is very hot and sometimes when the road department are working outside the house so now how can I get this problem sorted out? The monitor was serviced six months ago and hasn't been too much of a problem.

Mr G Barr, Irvine

The monitor that you have is quite old and despite the fact that you have had it serviced, it is probably on the way out. There's not an awful lot you can do other than buy a new one.

Moving along the upgrade path

I've had my A500 for around four years now, mainly using it for wordprocessing – though I admit to hijacking my brother's Alien Breed for days on end.

However, though programmers are still trying to support the ageing Workbench 1.3, I'm contemplating moving on – the Workbench 2 print spooler on the July CoverDisk is the clinch.

Like most people, I've spent almost as much on additions as I did on the original unit. This means I'm quite reluctant to fork out for an A1200 and start again – it doesn't even have a battery backed-up clock as standard, never mind a hard drive!

An internal ROM upgrade appears to be my best (and cheapest) option, but I'm a little unsure about a few things and can't find exact answers in back issues of your magazine. I'm quite attached to my hair and I hope you can save me tearing it out.

1 To use Workbench 2, is the Workbench upgrade chip and disk pack all I need or do I also have to buy the Agnus and Denise chips found in my brother's A500 Plus? My current chips are: Agnus ECS 8372A (still at 1/2Mb due to a phobia of soldering irons) and Denise STD 8362.

2 Memory stands at 2Mb via a series of 1Mb and 512k trapdoor expansions. In the adverts for these boards (and others like them) I see that they require Kickstart 1.3 and point the reader in the direction of a ROM swapper.

When I upgrade to 2.04, is the extra memory compatible when I'm using it, or have they just omitted an "or above" in the ad? I can't see why the memory should be redundant but I can't afford to risk it as even 2Mb is limiting – there's plenty of space in my GVP though.

3 Adding up the prices of whatever chips I need (and possibly paying for installation) would it be cheaper to buy a 2Mb Plus (or even an A1200, which should be down in price by the time I save up) and use my current machine as a quaint door wedge?

Somehow, I think the idea of simply swapping machines with my brothers will not go down too well (but I've thought about it, believe me), so any advice or suggestions on these questions will be appreciated.

Ian Hiles, Tyne & Wear

1 *In order to use a ROM sharer to its full, you will need to buy a Super Denise chip (8373) – the Agnus chip that you already have is fine. Bear in mind that as well as the sharer itself, you will also need to buy a Kickstart 2 ROM. The total for this little lot is likely to be in the region of £100.*

2 *If you chose take the ROM sharer path, the additional trapdoor RAM that you have should not cause any problems.*

3 *The A500 Plus is currently available for around £200 and an additional 1Mb of RAM would set you back about £30. The GVP hard drive that you have will work with both the A500 and A500 Plus.*

Add to that the cost of a 1.3 ROM sharer and it starts to look very expensive when compared with the A1200, particularly when you compare the specifications. The Plus is not exactly state of the art and you would be better off buying an A1200 which already has 2Mb of RAM, a faster processor and superior graphics.

Although at first sight this looks like the most expensive option, bear in mind that the A1200 now costs £300 and is only likely to cost £100 more when bought with a built-in hard drive. When this outlay is offset against the sale of your existing system, we think this is the best option.

WIN the One-Stop Music Shop

Worth £570

This is your chance to win The One-Stop Music Shop courtesy of *Amiga Computing* and The Blue Ribbon SoundWorks. This internal version of a Midi module for the A1500 or above has distinct advantages for multimedia and DTV work, such as freeing the serial port. The One-Stop Music Shop is a card that slides into a Zorro slot offering stereo RCA Out plus built-in twin Midi I/O port at the rear.

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Each instrument source has a selection of slider-controlled parameters to adjust tuning, volume, pan position, starting point and the relative delay of the component sound within the overall sound.

The One-Stop Music Shop could be yours for a quick phone call which should cost you under £1 at cheap rate. To keep the cost to a minimum try to avoid background noise, which may necessitate the repetition of answers.

It's the first plug-in synthesizer to offer 16-bit Midi sound from inside the machine



The One-Stop Music Shop requires an A1500 or above a Zorro slot and some type of amplication method, for example a stereosystem

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1 What is at the heart of The One-Stop Music Shop?

a. Midi player
b. E-Mu SoundEngine
c. Slider-controlled parameters

2 Which of the following can the instrument source's selection of slider-controlled parameters not adjust?

a. Tuning
b. Channel changes
c. The relative delay of the component sound within the overall sound

3 How much does The One Stop Music Shop retail at?

a. £940
b. £1,200
c. £570

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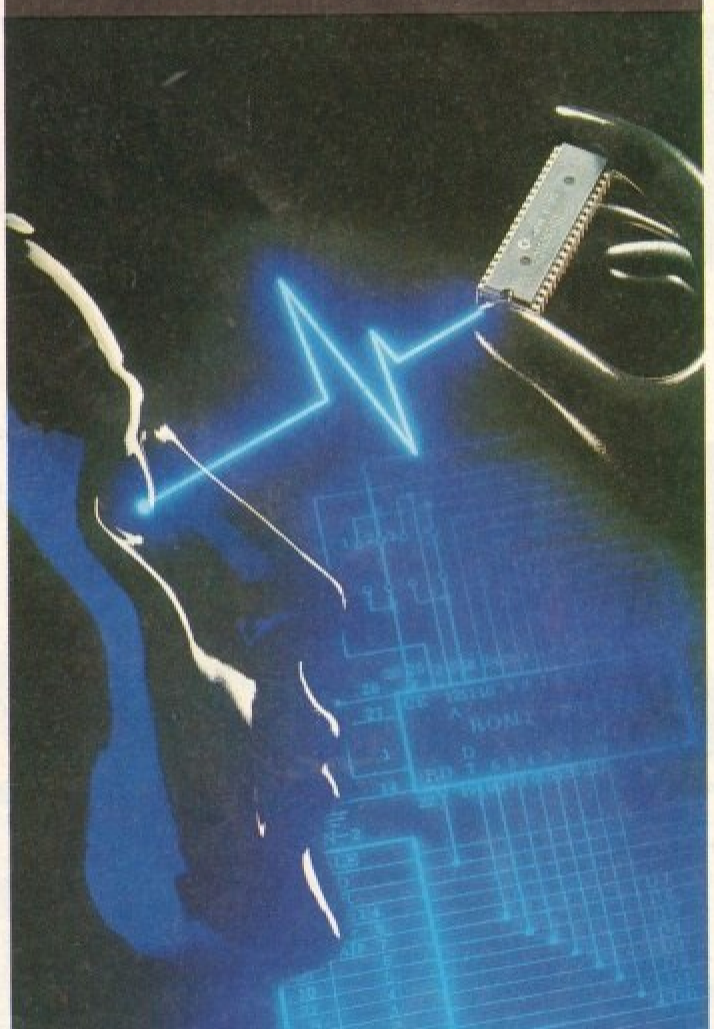
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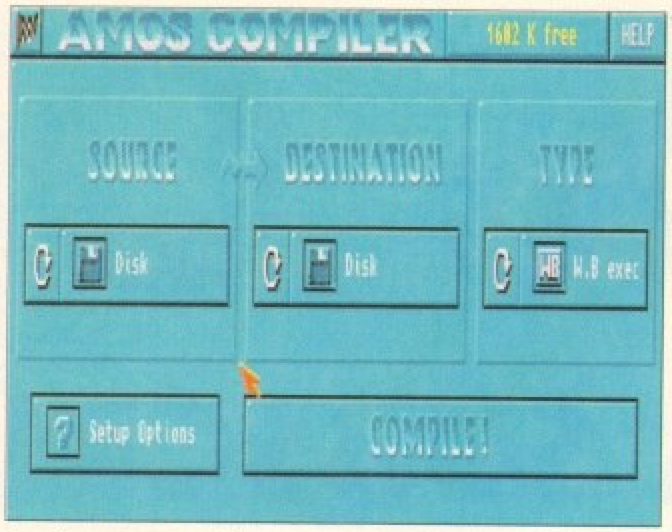
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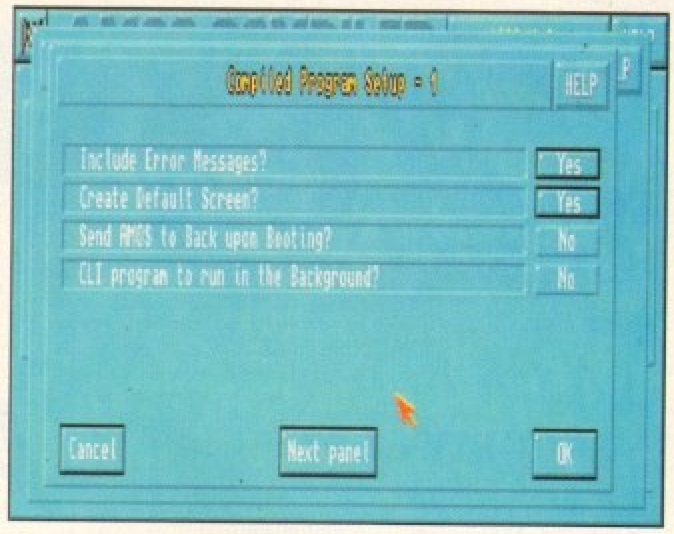
This is the Amos product that's perhaps been more hotly debated and more eagerly awaited than just about any other. The thing is that Amos as a development system was pretty much perfect, and the only thing missing from Pro – apart from a really good bug-fixed version – was the compiler.

Now don't get me wrong, I know I'm always banging on about how Pro is buggy but that's not because it's completely no good. No no no. It's more that it's at the stage that Amos was a few years ago when it first came out. It just needs a lot of use before all the bugs in the new features can be ironed out.

You see Amos Pro is actually still the basic Amos program you know and love, but there's been a lot of augmentation, and it'll take a while for the code to settle down after all the additions have been used a lot and all the bugs ironed out.



Compiler opens up to a clear, easy-to-use interface



There are lots of option for methods of compression



Speed is the key

Want to accelerate your Amos efforts? Phil South reviews the latest addition to the family, Amos Professional Compiler

But it will happen, and truth be told I'm going to start using Pro a lot more now. I know I said it would take a while to make me switch from Amos Classic, and I know I'll still have that to fall back on should Pro let me down.

But it's time to start having a little faith in the new program, and helping to iron out bugs rather than just sitting here griping about them.

The same things I just said about Amos Pro are true about Pro Compiler. It's still basically the same engine under the hood, just a new 1993 body and few technical enhancements which affect the way the thing drives – a bit like a Mondeo. The face is different, that is to say that the front end program is much altered, and it runs from an icon rather than being loaded into Amos, but I guess this just means that the program has been compiled.

The compiler works with previous versions of the Amos program like Amos and Easy Amos, so you can buy the new compiler even if you don't yet have the newest version of the language.

NEW COMMANDS

The compiler obviously copes with all the new versions of Amos Pro and all the commands which have been added to the language since the last compiler was built. This obviously takes in all the Anim and music player commands too, and the library for compiled programs to share means small programs if the target computer for your programs is running the correct amos.library.

Even though you should use the shared library setting if you want to be sure people can run your programs, this is a big saving on size and so should be considered if you know everyone who'll be using your code.

You can do the usual Squash command to compress the files, but every time I use this something goes wrong – not just in compiler Pro but in the old compiler too. I tend to forget that and use PowerPacker for online compression and decompression.

The remove default screen problem is still there too. If your program uses an unpack command then the screen is automatically created into your default screen, right? But if there is no default screen the screen can't be created, so no go.

You can also load in Ascii files for compilation, which is handy if you want to develop your programs on a laptop or palmtop wordprocessor and transfer them for compilation (I could use my trusty Portfolio, even!).

There is talk, too, of this compiler being even faster than the original. That is very hard to test, and really I couldn't see any difference (if anyone at Europress can send me a reliable benchmark program, I'll be happy to run it, if not print it in the next issue!).

Obviously seasoned users will see that this is not anything new, but rather an upgrade of what has gone before. It's a tool, it does the job, but as my old man would say: "If I wanted something to write home about I'd have been to the circus."

Funny chap, my old man.

AC

Bulging files

Program sizes were very different with a shared library; 61k including library plays' 18k without. Not bad, but not totally portable to any machine which doesn't run the amos.library, so not really as good as a fully optimised compiler which would not include any commands not used in the program itself.

The program comes free with an updater to make sure you have the latest version of Amos Pro on your machine. I must admit I found this a little bit odd. I installed the Amos Pro program about ten seconds before I tried to use the updater, and I got an error message saying I needed to use the correct path. I was using the correct path, dammit, and I couldn't get it to change it's tune, so I killed it and installed to floppies, then reinstalled the new version to hard disk. This got up my nose more than a little, but I still can't figure out what the problem was.

Despite all these niggles and quibbles I do think the release of this program should be applauded, for no other reason than it enables us serious Amos users to put our backs into it and see if Amos Pro really has what it takes to be the Amiga development system of the 90s.

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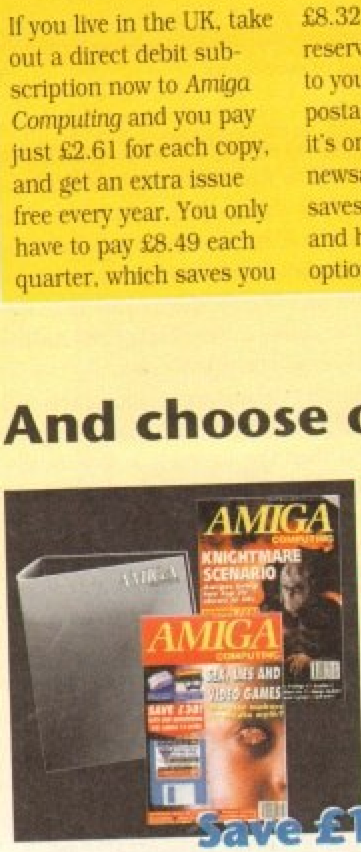
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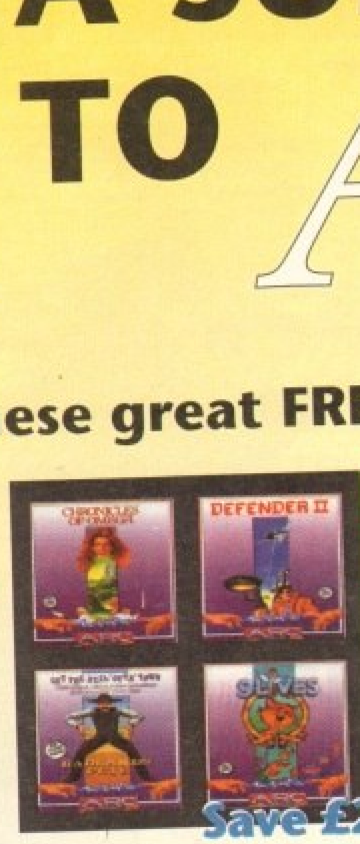
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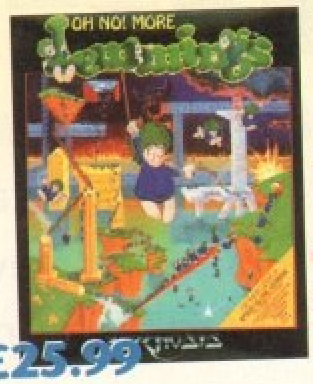
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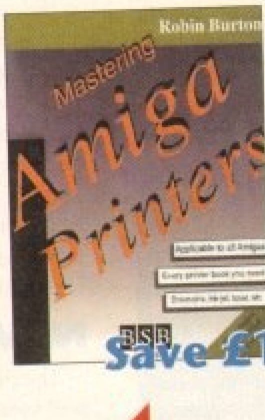


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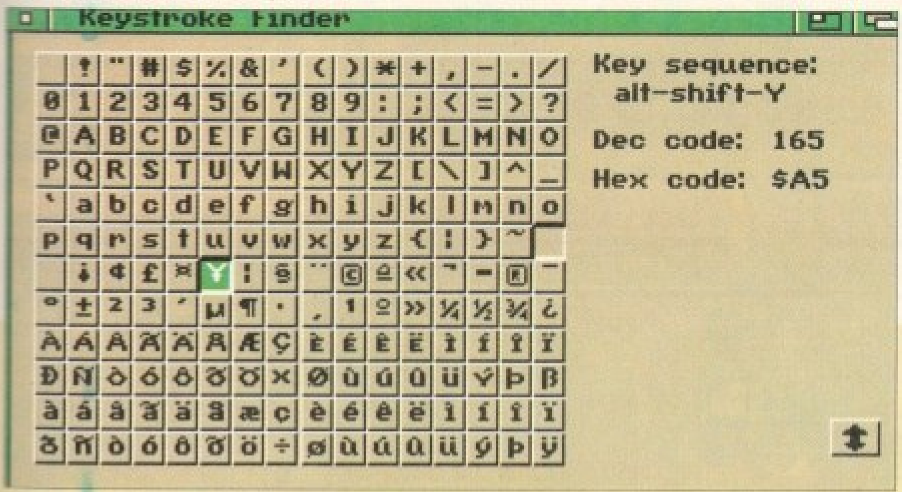
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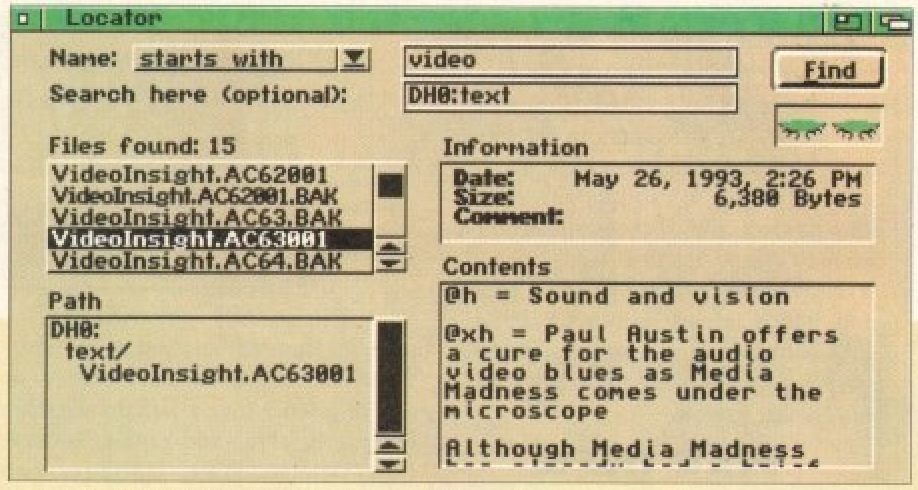
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Locate lost files in seconds with customised search parameters

Touchdown!

The all-new Quarterback Tools Deluxe has finally arrived. Paul Austin takes a time out to look at this new player in the field

With the recent release of new updates to the Ami-Back range of management and back-up utilities, the race for supremacy in the security business is hotting up.

Not to be outdone by the Ami-Back challenge, Quarterback rejoins the field as the all-new Quarterback Tools Deluxe. Quite what makes the package "deluxe" is something of a mystery.

However, this newly-gained prestige could well be due to the suite of extras which accompany the main program. Before moving on to the main repair and maintenance program, a brief pause on this rather peculiar collection is well worth the page space.

Starting with the silliest first – Keystroke Finder leaps forward to claim the honour. As the name suggests, the aforementioned utility will find any character available to the Amiga.

Simply clicking on the character's icon will reveal the alter egos offered when used in concert with Alt and Shift. Admittedly the utility works perfectly, but considering that ShowKey within Workbench can provide exactly the same information, the question has to be, why bother?

On a brighter note comes an infinitely more impressive utility entitled Locator. In my opinion this is the one that Workbench has always lacked, namely an automated file finder.

With the assistance of Locator, finding files lost in the bowels of a bottomless hard disk is simply a matter of adding an appropriate string and instructing to look for files employing filtering such as; begins with, ends with, contains, isn't, doesn't contain and so on.

Once the filter is defined, the disk chosen and the string added, hitting OK initiates the search with a pair of baby blues swivelling from side to side during the search.

As each occurrence is found the file list updates, revealing reveals the file info, location, plus its first few hundred bytes. To access the particulars of any file, simply click on its name and all will be revealed – even while the search is still in progress.

SECURITY

For the security conscious, two utilities are provided, entitled Encryptor and Brain Cloud. Not surprisingly considering its title Encryptor, will scramble any file rendering it useless without the appropriate password to unscramble your secret data.

However be warned, Encryptor does a particular thorough job, scrambling all the data within the file. When applied to big files it can mean a long wait while encrypting and decrypting. And of course if the password is mislaid there's no way to retrieve the data.

The second security utility is directed specifically towards floppies in the form of Brain Cloud – a program which temporarily renders any disk out of action. Once a brain cloud is applied the disks appears permanently busy and will not submit to any AmigaDOS operations whatsoever.

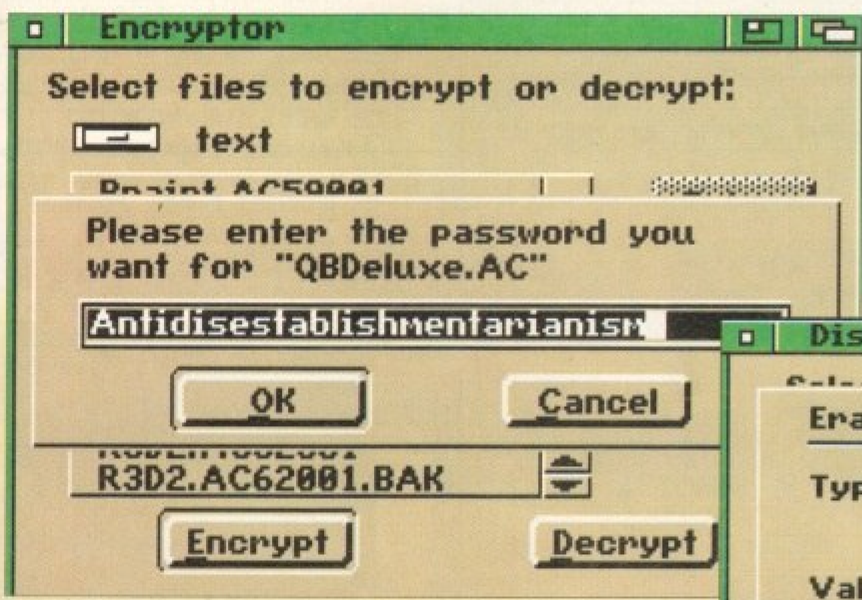
In order to use this disk for any reason you must un-cloud it first. Although not the sort of utility you'd employ every day, Brain Cloud does offer the ultimate in software protection. Admittedly the lack of a password will mean the disk could be un-clouded by others – but that's where Encryptor comes into its own.

Continuing in the search for the ultimate in security come yet another two utilities entitled Disk Eraser and File Eraser – again pretty self explanatory as to their use.

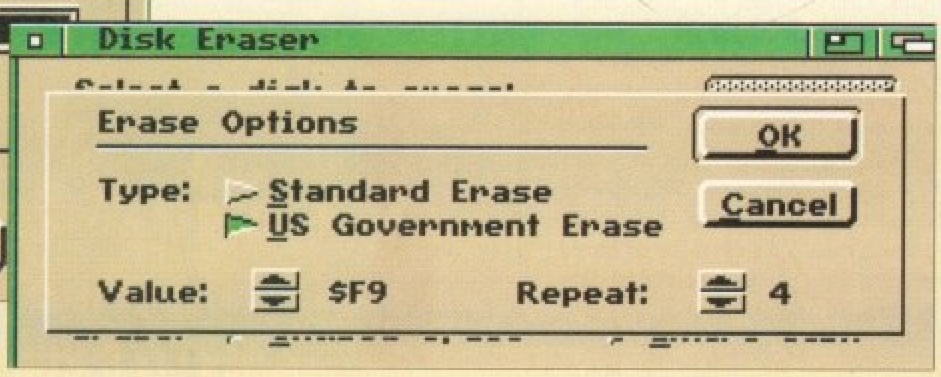
However, unlike the majority of erasers both the QBTD utils boast the unique ability to use an erasing method endorsed by the US Department of Defence.

Whether you pick this method or the program's default setting, the process is the same with the machine making a user-defined number of passes over disk – thereby completely obliterating any data – and chance of recovery.

The final two utilities are Replicator ➤



Password protection courtesy of the Encryptor



Destroy any file for good with the aid of the US goverment!

and System Mover. The first allows a disk image to be created from any AmigaDOS floppy which can then be saved to disk, creating a replica which can be downloaded to all the drives on your system simultaneously either before or after saving to disk.

Lastly comes System Mover – a program which automatically locates and copies the essential elements of the operating system ready for duplication onto another device.

FILE INFO

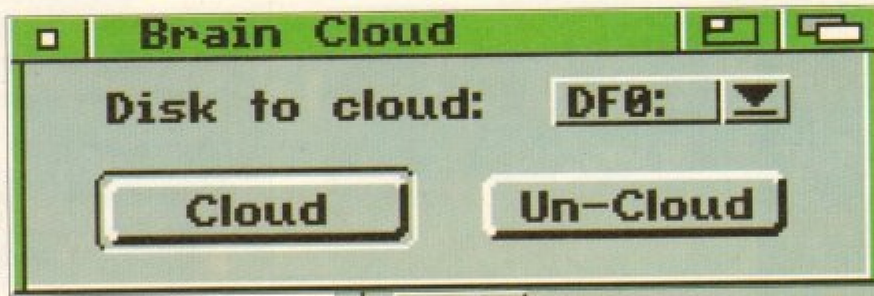
Auto-location includes fonts, printers, Libs, devices, handlers, keymaps, CLI commands and CLI scripts. Once listed, clicking on any file reveals the version number, revision date, size and creation date of the selected file ready for easy comparison with your existing versions.

Although system duplication and indeed many of the functions offered by the QBTD utils can be emulated by the more advanced directory managers such as Directory Opus and SID, they are nevertheless very handy for the serious user and an excellent freebie.

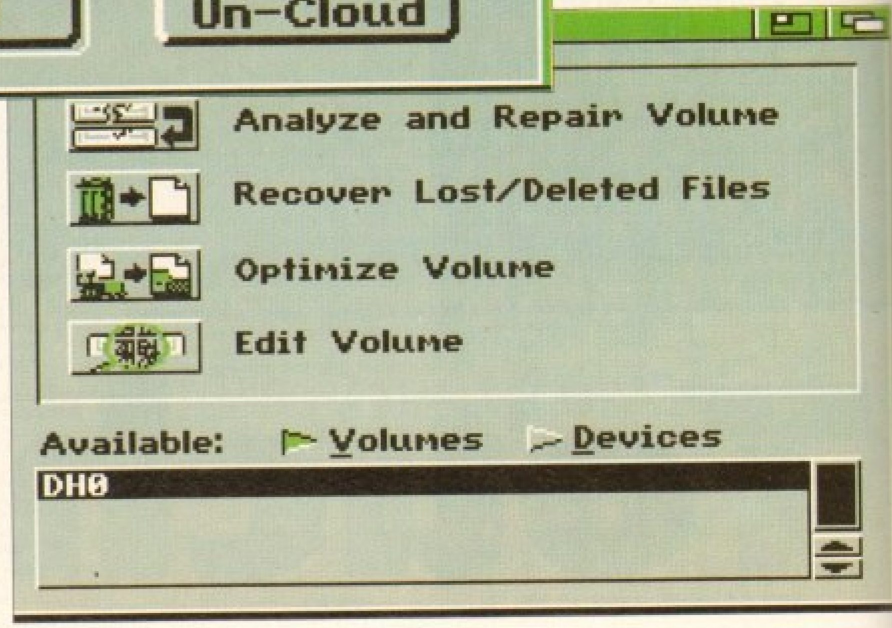
The main program again follows the modular approach inspired by the aforementioned utilities. Once loaded-up you're offered four alternatives which include Analyze and repair, Recover Lost/Deleted Files, Optimise and Volume Edit.

With this arsenal at hand you can scan disks for a whole range of problems and apply the repairs automatically. In addition, any bad blocks found on the hardware can be spotted and hidden from AmigaDOS – thereby avoiding repetition caused by errors on the disk itself.

Aside from repair and preventative maintenance, you can also salvage lost or deleted files, even when the disk itself is badly damaged or a quick format has been accidentally applied – of course in the case of physical damage this is often a case of picking through the rubble rather than restoring everything.



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On a less dramatic note, QBTD also offers an optimise option which will defragment your drive, thereby providing the optimum storage and access.

However like the equivalent from Ami-Back Tools, the feature can be fairly redundant on more modern hard disk controllers as they often manage available space extremely efficiently by default and rarely need much attention.

In addition to the point-and-click paradise offered by the majority of the program, you're also provided with a sector editor enabling experts to edit the information on the disk directly – not recommended for beginners.

ARexx aficionados are also catered for with a selection of ten programmable macros plus an option to launch additional scripts directly.

FULL SUPPORT

Finally like all the better recent releases support is also provided for AmigaDOS 2.0 and 3.0 with special attention being paid to the hard and soft links provided by both of the above.

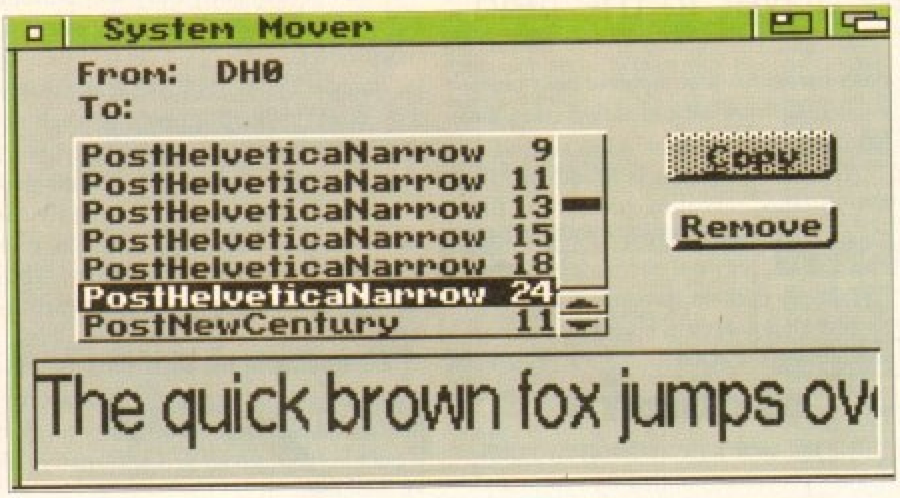
The obvious question is: If given a choice between Ami-Back Tools and Quarterback Tools Deluxe, which would be the better buy?

Well apart from the slight price difference in QBTD's favour there's very little in it. Both programs offer seemingly identical performance when it comes to reviving the dead and general disk organisation.

Perhaps a better question would be: What would you prefer? The flexibility and easy automation of Ami-Back Tools or the impressive collection of additional bits which accompany QBTD?

Personally I'd opt for the QBTD simply because for me the utilities would be of more use on a day-to-day basis.

AC



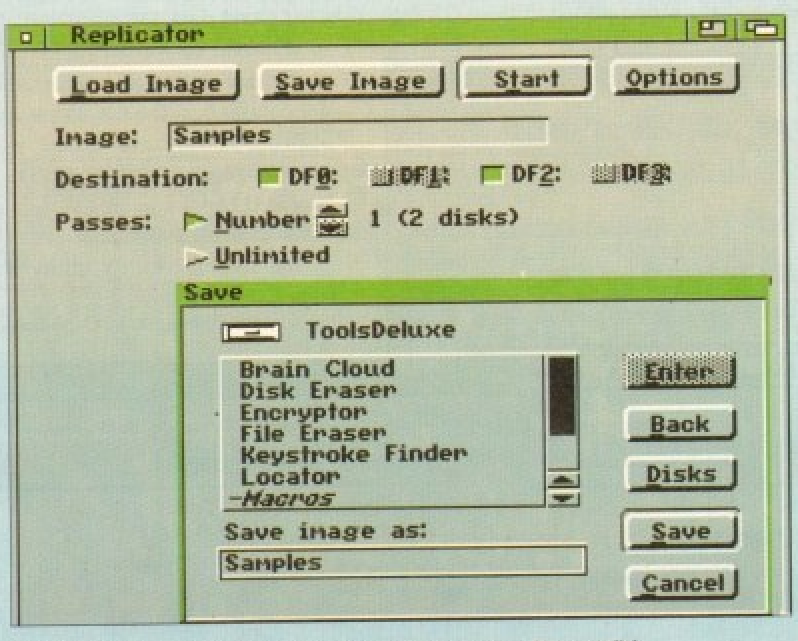
Complete your collection

Like the opposition, Central Coast Software don't stop with their assortment of disk repairers, optimisers and utilities. In fact, they're in the enviable position of enjoying Quarterback5 as part of their software stable.

Although the title is deceptively similar to its tool-oriented counterpart, QB5 is a hard drive back-up system that's become something of an industry standard when it comes to large scale data storage.

Like Ami-Back, QB5 is capable of floppy back-ups but also as a file on another volume or alternatively direct to a tape streamer. However, it must be said that QB5 doesn't offer the scheduling option available to Ami-Back – its main opposition.

Even with the lack of scheduling, QB5 remains the most popular back-up format in the professional market which means it's often the preferred medium when transferring large amounts of data to others for commercial use.



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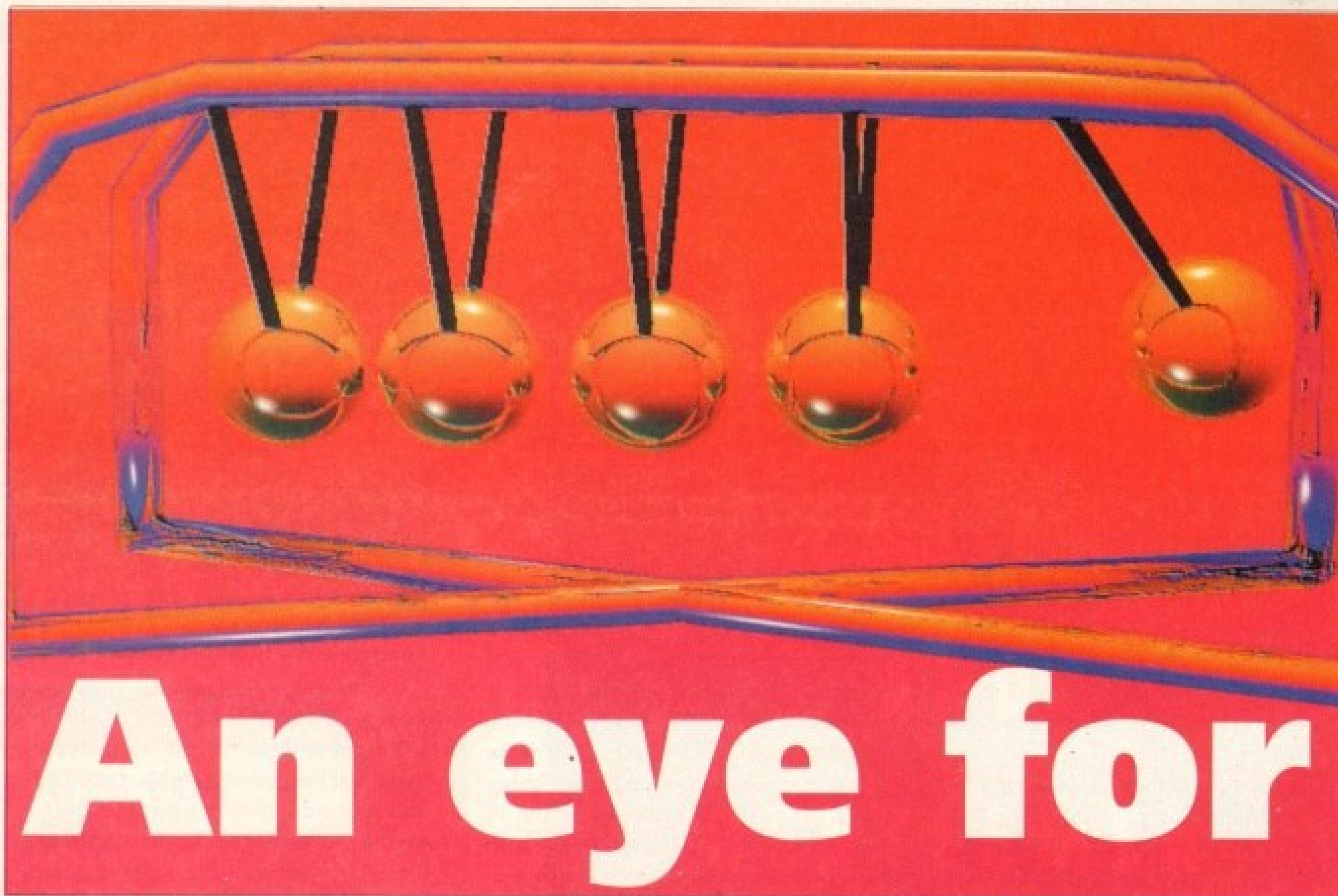
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An eye for change

The low cost Retina 24-bit card now has software to match its hardware

When Retina first landed on the *AC* test bed it was a promising low cost 24-bit high resolution display card with early software which was a little buggy and unstable in places.

What should have been a perfect cheap solution for CAD, DTP, and high quality artwork was held back at the last fence by reluctant code which wasn't quite capable of making the distance.

Since the first boards were shipped, however, Makro System have made several changes to both system and utility software, and the situation has taken a marked change for the better. With release 1.3, Retina is now capable of fulfilling its promise as the best low-cost Amiga display card.

Possibly the greatest disappointment when we first looked at Retina was the failure of the MakeRace animation software to actually function. Double buffered 24-bit animation was on the menu, but it appeared that the Chef was of the sausage and egg school.

INTUITIVE

MakeRace now works fine, and has the immeasurable benefit of an intuitive front end to make using it a great deal simpler than the CLI-driven utility it once was. Opening on a clean gadget-filled window, the program immediately offers the user a wide range of controls affecting the quality of the finished animation.

Three buttons are used to select between 8, 16, and 24-bit results, and when 8-bit is chosen, the user has a palette slider at his or her disposal to define the number of colours, up to a maximum of 256, in which the 8-bit anim will be rendered. Defaulting to 16-bit, a compromise between speed and quality, MakeRace won't produce 25 frames per second in full overscan, but it does make for a very handy preview utility.

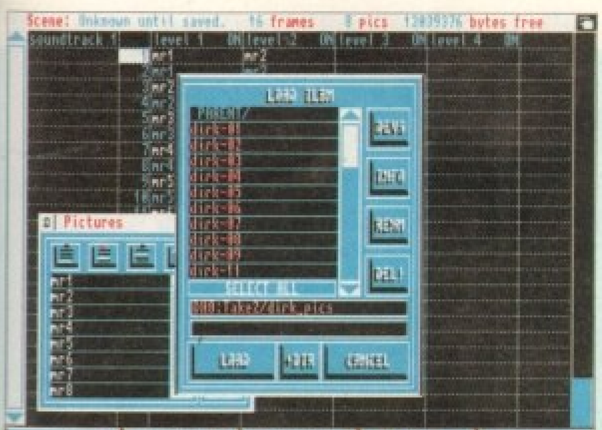
It is easy to select a range of animation frames and render them as a Race anim for preview – much easier and quicker than, say, converting them to Ham8 or scaling them down to a more manageable size.

In addition, there is a real benefit in previewing an animation in exactly the quality at which it will be transferred to tape, even if it will run at only 12 frames per second.

The Newton's Cradle animation, a frame of which is shown here, was rendered as 25 frames and converted using MakeRace to a 5Mb 24-bit anim playing at a respectable 12 or so frames per second. Animations with camera panning involving a lot of full screen movement crawl along at less than ten frames per second, but even at this speed, full 24-bit previews are very useful. Videographers who need to see how an animation will appear before committing it to tape will find MakeRace much more useful than any quarter-screen HAM preview.

Other changes in software are mostly of the clean up and bug-fix variety, but most ➤

Take 2 comes again



Take 2: Powerful and practical

The first release of Take 2 offered a package with more power features than its price tag would have indicated, including four-level animation of the kind used by professional cartoon animators; direct control over the Vidi Amiga digitiser; synchronised sound, and so on.

However, whinging users as we all are, a flood of feedback from users has resulted in a much augmented and tweaked program which is now more practical than ever. Take 2 is designed as a "line tester" for use in commercial studios or users' back bedrooms, into which the animator imports, either from a paint package or by digitising directly from hand-drawn pictures, a series of frames from an animation in development.

By providing tools for the user to test and edit the rough anim, usually simple line drawings (hence the term line tester), Take 2 makes completion of the final drawings and final animation much more exact.

SAVING TIME

Line testing is a vital part of every commercial cartoon studio's production process, and as it is such an edit and experiment-intensive procedure, the software which controls it has to be very flexible and practical.

Most of the changes made for this latest release of Take 2 have been prompted by users who require as much functionality and time-saving as possible, so it's no surprise that Rombo have made only solidly sensible improvements. Of most interest to user will be the new editing features found in the X-Sheet, Take 2's exposure sheet where most cell manipulation takes place.

By giving the mouse a great deal more power to its elbow, even the smallest editing moves can now be made without recourse to menus and less intuitive actions.

For example, stretching a cell's timing so that it appears on screen for a greater amount of time is now simply a matter of clicking and dragging the cell to its new length. Similarly, sound samples can be made to stretch out in the same way, though the results can often distort the sample.

In addition, merging several levels of animation into one level for previews of a complete animation has been added to the X-Sheet's arsenal of tools. By choosing Merge from the X-Sheet menu, users can combine all four levels into one animation quickly while retaining full colour and resolution. This is ideal for previews for clients or for a last minute proofing exercise before final- ➤

are well thought out and sensible. For example, RetinaEmu, the heart of the Retina system and the program which enables the display of Workbench and most legally coded packages on the Retina itself, has been enhanced and improved.

The 16-colour limit imposed by early versions of the software has been removed, and Retina is now capable of displaying a Workbench screen in up to 256 colours, though operations can slow down quite a bit when this option is used.

If the limit is adhered to, users will notice a marked speed increase over some earlier operations, especially scrolling through large pictures.

Retina's documentation claims a sevenfold speed increase and, while this is difficult to check, the improvement certainly is impressive. Working with very large images on a standard Workbench-size screen is thus a great deal easier as moving around the picture is faster and smoother.

Ham8 is included for full AGA emulation, and it is possible to display these files as if using a new Amiga, but the code involved needs a little more work. As soon as a Ham8 IFF is displayed, the board grinds almost to a halt, and speed is compromised to such a degree that it is far quicker to use ADPro and the Retina saver to view such images.

For easier and more effective use with different monitors, the RetinaScreenMode program has been introduced and a new DefineMonitor program included. Monitors are now grouped together under broad headings, making it easier for a user to find a screen mode to suit his or her VDU, and adding a new monitor to the fairly long list of models catered for is easier now that a separate program deals with the process.

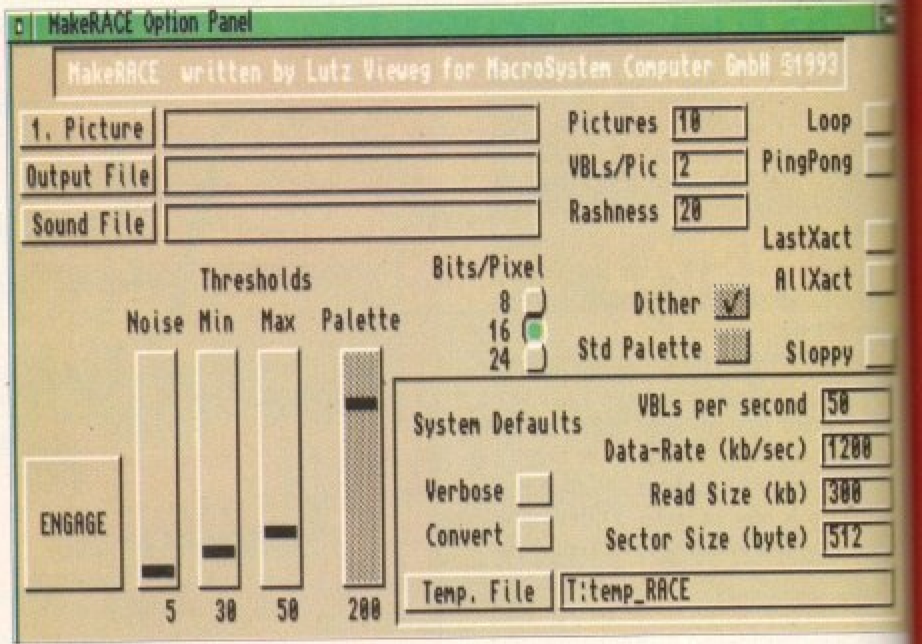
QUICK TWEAKS

By inputting the monitor's vertical and horizontal scan rates and so on – taken, hopefully, from the device's manual – the user can tell Retina just how to talk to its cathode friend. However, if the manual data is not available, simply choosing a group and messing about with the settings makes for a quick solution.

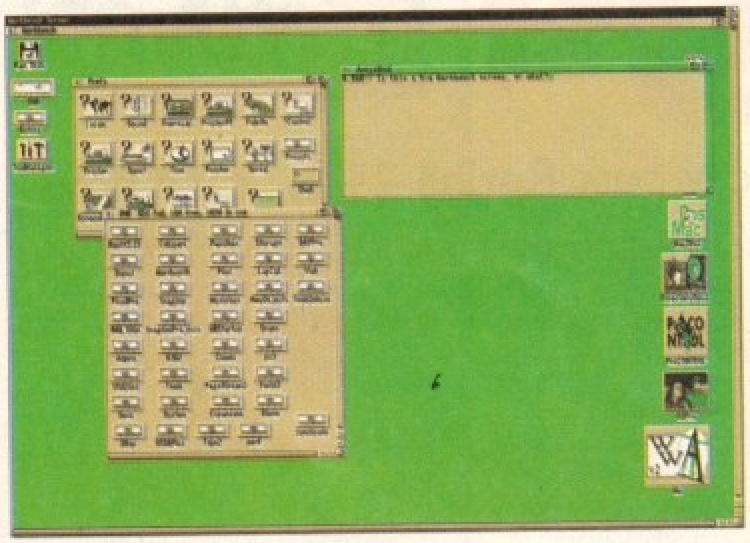
The program's test mode will send a test card image to the Retina board at the click of a mouse button, and if the image doesn't appear, or is hopelessly out of sync, the user can just experiment with monitor settings until a rock steady picture is achieved. Now just plug the monitor into Retina's video connector and go.

There are a number of smaller tweaks, such as the RetinaDisplay program's willingness to show Jpeg files without them first being decompressed in ADPro, and the odd minor upgrade, but in essence the package has seen a tightening up in areas where definite improvement was called for (such as MakeRace) and the addition of sensible new utilities (such as Define Monitor). As an end result we have a display board which continues to offer the best low-cost high resolution CAD and DTP solution while being easier to use and having a little extra appeal for artists and videographers.

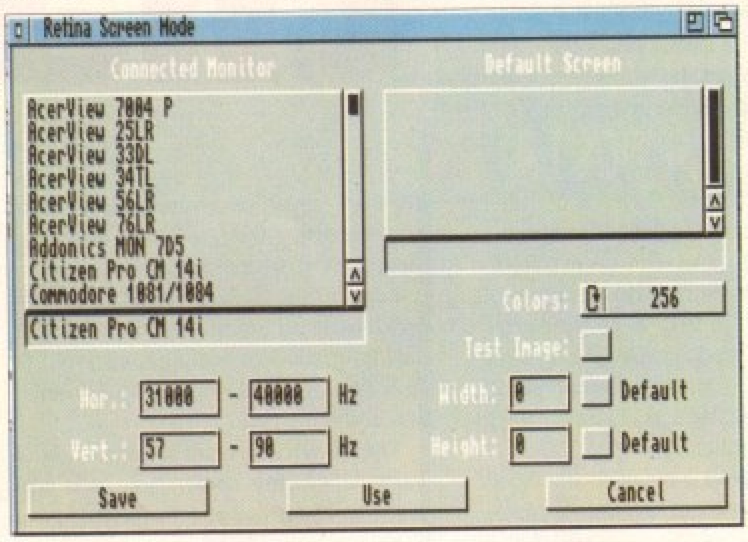
● *Retina is available from Amiga Centre Scotland on 0896 87583.*



MakeRace is easy to use and extremely powerful



Very high resolution screens are ideal for CAD and DTP



Choosing a screen mode to suit one's monitor via RetinaScreenMode

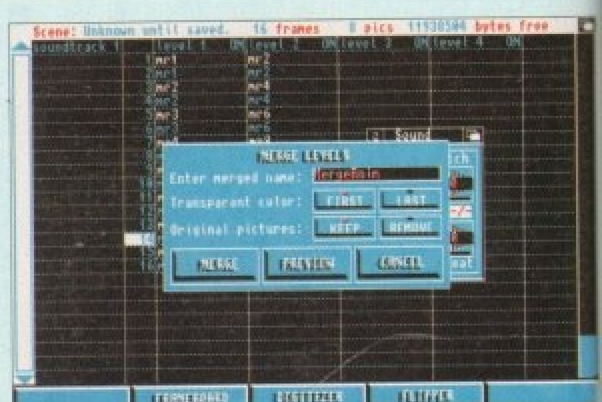
ising the production. Control of the Vidi Amiga 12 hardware has also been implemented, and includes software control over the incoming video signal.

CLEAN PICTURES

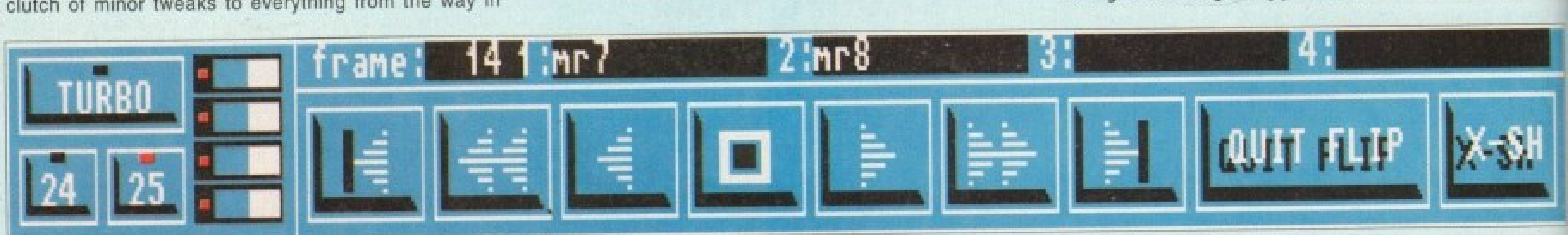
Sliders for brightness, contrast, saturation, and offset will, when used with the new hardware, enable the animator to choose exactly how the line drawings or other artwork appear on screen. This can be important to ensure that a clean picture results in as accurate a preview of an animation as possible. These are the important or biggest changes, but they are backed up by a clutch of minor tweaks to everything from the way in which the Flipper preview player is controlled to the file requester and the info panel, which now informs the user how many pictures will fit in the available floppy or hard disk space.

In all, what was always a very useful and cost effective line tester for commercial or home use is now a more productive and usable package. The changes made by Rombo are thoughtful and well targeted, prompted by those who use the program every day and aimed to improve rather than change for the sake of change.

● *Take 2 is available from Rombo on 0506 466601.*



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- U1A **GHOSTWRITER DATA** For use with U1
- U4 **JAZZBENCH** Alternative WB
- U5 **LOADSAICONS** Guess what!
- U7 **DISKMASTER V3.0** Directory tool – plays sound
- U10 **ICON MAKER**
- U11 **ICONMANIA** Icon utilities
- U29 **CLI WORK**
- U32 **OPTI UTILITIES** Loads
- U35 **AMIGA WORK STATION**
- U37 **QUANTUM AND TEMPEST UTILS**
- U40 **ZODIAC COMPACTER** v2.0 Prog packer
- U42 **DISK SALVAGE DIR-UTIL** Repairs disks
- U45 **FULLFORCE UTILITIES** Loads of em!
- U53 **FULLFORCE MEGA UTILITIES 2** Even more!
- U54 **QUICKBENCH PLUS** Alternative W.B
- U56 **ANTI FLICKER** Stop Screen flicker
- U59 **WINDOWS BENCH** (2 disks) Excellent for W.B. 1.3
- U60 **MESSY SID II** Dir-tool Amiga to PC
- U69 **SID V1.06** Dir work, very useful
- U73 **DIRWORK**
- U77 **RED DEVIL UTILITIES 6**
- U79 **RED DEVILS UTILITY 4**
- U81 **QUICKBENCH** Fast loading W/Bench
- U82 **DYNAMIC DUO UTILITIES 1**
- U90 **CLI HELP + OTHERS** Insight into the CLI
- U91 **MCAD DEMO** Computer aided design
- U95 **ELECTROCAD DEMO** Latest circuit design
- U101 **NIGHT FLYERS UTILITIES 1** Mega
- U125 **CROSSDOS** Amiga to PC
- U153 **MYSTIX HARDWARE MCD COMP 1** Useful info
- U155 **KEFRENS METALLION UTILS**
- U168 **DESIGNER DISK SET** (3 Disks) Understand Amiga better
- U183 **HACK PACK** (2 Disks) 72 Utils for code busters
- U190 **SID V2.0** Dir tool, excellent
- U191 **DELTRAX UTILITIES 1**
- U192 **DELTRAX UTILITIES 2**
- U195 **LITTLEBENCH** Alternative WB
- U196 **BROTHERHOOD UTILS 1** Diskwork
- U197 **BROTHERHOOD UTILS 2** 30 in all
- U198 **BROTHERHOOD UTILS 3** Virus killers etc
- U206 **ENERGY UTILITIES** – 37 in all
- U229 **GAMES CHEAT LIST 2**
- U230 **INSTALL** Install your disks without the CLI
- U237 **THE GURU V2.0** A500+/A600. For your kick
- U241 **WHAT IS V1.2A** File utility
- U242 **MSH V1.3** Handles MSDOS files
- U260 **SUPERLOCK V1.01** Security prog. lock off Amiga
- U262 **DARKSTAR UTILS 2** Full of ideas
- U263 **DARKSTAR UTILS 3** lots
- U264 **DARKSTAR UTILS 4** more
- U267 **ARP V1.3** Alternative commands
- U271 **NBS SPEEDBENCH** Fast loading W/Bench
- U282 **SUPER C DIR TOOLS** Fast use of C
- U288 **EYE OF THE BEHOLDER CLUES** Hints
- U297 **COMPUTEREYES ICONS**
- U308 **AMOS COMPILER UPDATE 1.34**
- U318 **MULTIDOS** PC>Amiga
- U320 **CLI-UTILS** Very useful
- U321 **AMOS 1.34 UPDATE**
- U323 **WINDOWS BENCH V2.0** (2)
- U330 **FLASHDISK RELEASE 3** Optimiser
- U331 **ASSASSINS HANDY TOOLS V1.0** 15 utils
- U332 **ASSASSINS HANDY TOOLS V3.0**
- U343 **WORKBENCH HACKS** (A500+/A600**)
- U346 **PROF DEMO CREATOR V1.1**
- U349 **SUPER POWER PACKERS**
- U350 **MYSTIX MOD 3**
- U351 **WORKBENCH HACKS**
- U252 **C-COMMANDS**
- U356 **PHANTASMAGORIA** Hardware Collection
- U361 **RDM** Directory util
- U391 **HACKTAR 1.6** Adv Creator
- U392 **STD CODE FINDER U.K.**
- U393 **RAD BENCH 1.4** Make use of your RAM
- U396 **FILE FINDERS & Q MOUSE**
- U399 **TOGGLE CLICK** A600/A1200 only-Stops drive click
- U404 **ENGINEERS KIT** Diagnostic tools
- U405 **SLEEPLESS NIGHTS 3** (A1200 only) Utils
- U408 **TOOLS FANTASTICA**
- U411 **A1200 UTILS**
- U383 **LSD LEGAL UTILS 32**
- U417 **LSD LEGAL UTILS 33**
- U418 **LSD LEGAL UTILS 34**
- U384 **LSD LEGAL UTILS 43**
- U385 **LSD LEGAL UTILS 44**
- U386 **LSD LEGAL UTILS 45**
- U387 **LSD LEGAL UTILS 46**
- U388 **LSD LEGAL UTILS 47**
- U419 **LSD LEGAL UTILS 48**
- U389 **LSD LEGAL UTILS 54**
- U390 **LSD LEGAL UTILS 55**
- U412 **LYAPUNOVIA** Picture generator
- U413 **ARESTAURE** Mends deleted files
- U414 **FAST INTRO MAKER**
- U415 **P-COMPRESS** Packer
- U416 **S-TEXT** Text packer
- U420 **A1200** WB Hacks
- U421 **KINGFISHER** Fish index to 840
- U422 **ANDYS WB3 UTILS** Brill!
- U423 **LYAPUNOV** Fractal generator
- U424 **ICON AUTHOR** Iff images for Icons
- U425 **AUTOSAVE** Save at intervals automatically

BUSINESS

- BU86 **JOURNAL** Accounts, simple to use
- BU96 **AMIBASE V3.76** Database
- BU104 **BANK'N** Cheque account
- BU105 **AMICASH BANKIN** Accounts
- BU106 **Q BASE & SPREADSHEET** Addresses
- BU108 **VISICALC SPREADSHEET** Like Lotus 123
- BU111 **ANALYTICALC** * (2) Spread-sheet, powerful
- BU112 **FLEXIBASE V2.0** DBase
- BU124 **BUSINESS CARD MAKER**
- BU128 **SCALC & WORDWRIGHT** Spread/w. proc.
- BU129 **WORDWRIGHT & SPELL** W/proc and check
- BU131 **U-EDIT W/PROCESSOR**
- BU132 **TEXTPLUS W/PROCESSOR**
- BU133 **600 BUSINESS LETTERS** Just load 'em in
- BU134 **QED TEXT EDITOR**
- BU135 **AMIGAFOX DTP V1.1** Puts pics with text
- BU136 **AMIGASPELL** Spellchecker
- BU137 **WORD FRENZY-DBASE & SPELL**
- BU138 **AMIGAFOX V1.0** W/Processor
- BU145 **TEXT ENGINE V4** W/Processor latest
- BU152 **AMIBASE PROF II V1.2** D/Base
- BU158 **MICROGNUEMACS** Text editor
- BU162 **A-Z SPELL** Spellchecker
- BU171 **ILLINOIS LABEL PRINTING**
- BU172 **INVOICE PRINTER**
- BU185 **HOME BUSINESS 1 – NAG** Diary
- BU186 **CLERK V4.0** Accounts – latest
- BU204 **MAIL-O-DEX** Mail Database
- BU212 **LABEL DESIGNER**
- BU213 **TEXTRA** Text editor
- BU231 **SPELLCHECK V1.2**
- BU248 **CHECKBOOK ACCOUNTANT** Very good
- BU251 **BUDGET V1.3-4** Finances
- BU252 **ANNOTATE**-A500+/A600 ONLY. Text editor
- BU253 **ANALYRIM** (2 Disks) ** S/Sheet + D/Base
- BU254 **SUPERSPELL** Global spell check
- BU301 **FORMS UNLIMITED** Loads
- BU304 **P SUITE V1.4**
- BU314 **P WRITER** Text editor
- BU324 **WORDPOWER** Thesaurus
- BU325 **EDWORD** W/Processor
- BU326 **ADDRESS BOOK**
- BU327 **BOILER PLATE** W/Processor & Bus. letters
- BU328 **LITTLE OFFICE** WP, S/S, D/B + Graphs
- BU329 **MORTGAGES ANALYSER**
- BU330 **PRINT A CARD** Design
- BU331 **LCD CALCULATOR**
- BU332 **AMIGA MAIL** Address lists
- BU333 **MAILBASE** Addresses & labels
- BU334 **PC FORM LETTERS**
- BU335 **PAY ADVISE ANALYSER** PAYE, NI etc
- BU336 **MONEY PROG** * Good accounts
- BU337 **CHEQUE BOOK** Accounts prog
- BU339 **D LAB** Disk labeller
- BU340 **LOGINFO** Phone bills for modem
- BU341 **EASYCALC** New spreadsheet
- BU181 **B BASE II** Database
- BU319 **ORDER v1.7** Database
- BU342 **LS LABEL** Label print
- BU343 **DATABASE WIZARD**
- BU398 **ADDRESS PRINT v3.0**
- BU399 **TEXTPLUS v4.0** Hard Drive only
- BU400 **ENVPRINT** Address envelopes

HOBBIES

- H 57 **GENEAOLOGY** * Family tree
- H 88 **CROSSWORD DESIGNER**
- H146 **A-GENE** Family history
- H175 **GOLF RECORDER v 1.84**
- H202 **ROAD ROUTE USA**
- H205 **DIETAID**
- H214 **FOOTBALL LEAGUE EDITOR**
- H232 **AUTOGRAPH** Petrol consumption
- H247 **CALORIE BASE** For recipies
- H250 **DARTS LEAGUE D/BASE**
- H298 **CULT TV VOL 1** TV series info
- H299 **WHOM 2** Data on TV progs.
- H302 **LAST WILL & TESTAMENT**
- H305 **ASTRO 22 v 3.0** Latest astrology
- H307 **FAMILY HISTORY D/BASE**
- H310 **TEN PIN BOWLING D/BASE**
- H333 **AMIGA PUNT** Horse racing
- H336 **PERM CHECK v1.0** Pools predicter
- H342 **STITCHERY** Cross stitch work
- H359 **RACE RATER** Horse predicter
- H360 **QUESTION ATORT** Quizmaker
- H361 **NEW BIORYTHMS** Excellent prog.
- H362 **WINE MAKERS D/BASE**
- H363 **CYCLING M** Useful
- H364 **DARTS MACHINE** Score recorder
- H365 **AMYGEN** Family history
- H366 **POOLS WIZARD**
- H367 **MING SHU** Chinese Astrology
- H368 **ASTRONOMY 2** Data generation & graphics
- H369 **AMERICAN FOOTBALL** (2 Disks) Game info & rules

COMMUNICATIONS

- C 25 **COMMSOFT** Needs C26
- C 26 **COMMSPANION** Needs C25
- C 62 **AZ-COMM** Modem programme
- C 71 **SUPERTEX v2.1** Videotex term Em.
- C 76 **MODEM UTILS** Access!v1.4,CNet
- C187 **VT 100** Terminal Em.
- C222 **JR COMM v1.02** For modems
- C249 **TERM II v1.1** Comms prog WB2/3
- C303 **OPTI COMMS** Inc.N Comm 2
- C347 **SATELLITE TRACKER**
- C357 **AMATEUR RADIO 11** Propagation etc
- C358 **AMATEUR RADIO 2** PIC, Prev ews etc
- C359 **AMATEUR RADIO 3** CONNplex, Ham etc
- C360 **AMATEUR RADIO 4** Morse, Speech etc
- C361 **AMATEUR RADIO 5**Ta-term, EBS etc
- C362 **AMATEUR RADIO 6** AVT, PicLib etc
- C364 **AMATEUR RADIO 8** Master Driver
- C365 **AMATEUR RADIO 9** Morse tutor
- C366 **AMATEUR RADIO 10** Terminal 1.2
- C367 **AMATEUR RADIO 11** Satloc etc
- C368 **AMATEUR RADIO 12** Satellites
- C369 **AMATEUR RADIO 13** Ami-pack 1.51
- C370 **AMATEUR RADIO 14** Ami-pack 2.0
- C371 **AMATEUR RADIO 15** Logbook
- C372 **AMATEUR RADIO 16** Access 1.42
- C373 **AMATEUR RADIO 17** Access !
- C374 **AMATEUR RADIO 18** Radio-log
- C375 **AMATEUR RADIO 19** Telecomm
- C376 **AMATEUR RADIO 20** Satellites
- C377 **AMATEUR RADIO 21** Satloc
- C378 **AMATEUR RADIO 22** Satellites
- C379 **AMATEUR RADIO 23** Comms
- C380 **AMATEUR RADIO 24** Admin.LAN
- C381 **AMATEUR RADIO 25** Comms-sys
- C382 **AMATEUR RADIO 26** Domain TEXT
- C383 **N COMM v3.0** Latest
- C384 **BBBBS** (3 disks) Bulletin board system

EMULATORS

- EM 87 **SPECTRUM + 40 GAMES**
- EM139 **A64 v1.0** C64 emulator
- EM141 **IBeM** PC emulator
- EM143 **ST EMULATOR**
- EM144 **SPECTRUM**
- EM149 **C64 GAMES DISK 1** use with
- EM150 **C64 GAMES DISK 2** emulator
- EM215 **A64 EMULATOR v2.0*** (2 disks) Latest C64 emulator
- EM216 **PC TASK *** PC Emulator
- EM217 **ZX SPECTRUM EMULATOR**
- EM306 **MS-DOS PROGS FOR PC TASK** (6 Disks)
- EM324 **KICKSTART 2** 1.3 users get this!
- EM397 **NUMPAD** (A600 ONLY) Numeric keypad
- EM400 **KICK 1.3** (kickstart 2 & 3 only) Degrades to Kickstart 1.3
- EM406 **SPECCY EMULATOR v1.6** (2 Disks) Latest
- EM410 **DEGRADER** Degrades to 1.3
- EM411 **PC TASK v 2.0** Emulator (WB3 use EM400)
- EM412 **FAKEMEM** Degrades to 1.3/512k
- EM413 **KILL AGA v2** Turn off AGA chipset

PRINTER DRIVERS

- PD177 **PRINTER DRIVERS** (2 Disks) Loads of 'em!
- PD200 **PRINTER DRIVER GENERATOR** Make your own
- PD275 **JOY OF PRINTING** Drivers + fonts
- PD281 **PRINT STUDIO** 41 drivers – good
- PD327 **CANON PRINTER DRIVERS**
- PD328 **PRINTER DRIVERS UPDATE 3**
- PD335 **PRINTER DRIVERS** Canon BJ10e
- PD354 **PRINTING UTILS v1.0** PPtype, PPshow etc
- PD358 **CANON PRINTER DRIVER** BJ130 etc
- PD407 **PRINTER DRIVERS COLL** Star/Epson/Panasonic/HP

COPIERS

- CP147 **PD COPY PROF v3.0**
- CP189 **D COPY v1.6** Excellent
- CP234 **FLASH COPY** Multi-tasking
- CP257 **FREE COPY v1.8** Removes protection
- CP313 **NIB v2.0** Removes protection
- CP340 **ASI CRUNCH 'N' COPY 2** Collection
- CP341 **COOL COPIER v2.0** Fast & safe
- CP348 **ASI DISK COPIERS** Collection
- CP349 **LOCK PIC 2** Remove protection on 400 games

PROGRAMMING

- PR 47 **C LANGUAGE MANUAL** (3 Disks)
- PR 49 **C LANGUAGE COMPILER**
- PR 55 **PROGRAMMING DISK 1** Language info
- PR 72 **PASCAL LANG PROG**
- PR 94 **POWER LOGO v1.0** Lisp & Logo
- PR110 **PDC** (3 Disks) Programmers aid
- PR118 **BC-FORTRAN**
- PR168 **AMIGA CODERS CLUB** (8 Disks)
- PR225 **CURSOR COMPILER** Basic language
- PR239 **DME V1.45** Programmers Text Editor
- PR243 **DICE v2.06.0** (2 Disks) C Environment
- PR244 **PCQ v1.2a** (3 Disks) Pascal compiler
- PR326 **SOZOBAN C DISK** AZ Text link compiler
- PR355 **ASM ONE** Assembly package
- PR357 **EZASM** Assemblers
- PR358 **C MANUAL** (12 Disks) The best yet!
- PR359 **NORTH 'C'** V1.3
- PR360 **LATTICE 'C' (3 disks)**

GRAPHICS

- GU163 **3D FONTS** (3 Disks)
- GU168 **CARTOON BRUSHES**
- GU219 **TV GRAPHICS** (2 Disks)
- GU226 **GRAPHIC UTILS**
- GU227 **REAL 3D FONTS**
- GU228 **REALTIMES** (2 Disks) 3D Pics
- GU240 **RICK PARKS ART**
- GU245 **BOOTPIC V1.2**
- GU246 **CLIP-ART PORTFOLIO** (15 disks)
- GU261 **LARGE FONTS DISK** (2 Disks)
- GU265 **SCANNES CLIP-ART** (3 Disks)
- GU266 **PG CLIP-ART**
- GU268 **EXILE FONTS**
- GU269 **DYNAMITE FONTS**
- GU270 **FONTS & SURFACES**
- GU272 **CLIP-ART COLL** (8 Disks)
- GU273 **CLIP-ART VOL 1** (7 Disks)
- GU274 **FONTLIB**
- GU276 **SOMETHING FOR NOTHING 1**
- GU277 **SOMETHING FOR NOTHING 2**
- GU279 **DYNAMITE FONTS 2**
- GU280 **HACK FONTS 1** (2 Disks)
- GU283 **COSMOPOLITAN FONTS 1**
- GU284 **COSMOPOLITAN FONTS 2**
- GU285 **COSMOPOLITAN FONTS 3**
- GU286 **COSMOPOLITAN FONTS 4**
- GU289 **SONIC DEV CONVERTERS PACK**
- GU290 **BEATRIX POTTER CLIP-ART**
- GU300 **GELIGNITE FONTS**
- GU309 **RAY DANCE** (2 Disks)
- GU310 **T.S.P. PICTURE FONTS**
- GU311 **DISK MANAGER + FONTS** (Plus only)
- GU312 **SHADOW MAKER**
- GU313 **MOVIE MAKER**
- GU314 **ANIMATIONS BRIDGE V1.0**
- GU315 **PLOTTING & GRAPHICS**
- GU316 **DOCK ICONS**
- GU317 **ASSASSINS MULTI-VISION V1.0**
- GU318 **THE SNOWMAN CLIP-ART**
- GU319 **PAGESTREAM 2.1 FONTS** (Disks)
- GU320 **WALT DISNEY CLIP-ART**
- GU321 **MAGNETIC PAGES V1.3**
- GU322 **COMPUTEREYES FONTS PACK 1**
- GU323 **COMPUTEREYES FONTS PACK 2**
- GU324 **COLOURED ICONS**
- GU325 **GRAPHICS RIPPER**
- GU362 **DIRECT ACTION** Anim creator
- GU363 **M.A.K.** Mandelbrot adv kit
- GU402 **FREE PAINT** Copy of DPaint
- GU403 **VIEWTEC v1.02** AGA graphics display
- GU404 **FONTS DISK 1** Large & small
- GU405 **DIGI FONTS** Good variety
- GU406 **COLOUR FONTS 1** Modern, Olde, Pica
- GU407 **COLOUR FONTS 2** Marble, Rocks, Grids
- GU408 **COLOUR FONTS 3** Dimond, Eye, Sun
- GU409 **COLOUR FONTS 4** Digi/Font brushes
- GU410 **COLOUR FONTS 5** Cinnam 8, 16 etc
- GU411 **COLOUR CLIP-ART** Hi/Med/Low for DTP
- GU412 **COLOUR CLIP-ART** Animals
- GU413 **CLIP-ART** Animals B&W IFF
- GU414 **CONTACH CLIP-ART 1** Cartoon, Zodiac, Cartoon
- GU415 **CONTACH CLIP-ART 2** Buildings, Xmas, Transport
- GU416 **CONTACH CLIP-ART 3** Signs, Teddys, Work
- GU346 **VIEW 3.2** Anim Player
- GU347 **HAM LAB PRO V2.06** Picture converter
- GU417 **GRAPHICS TOOLS 2**
- GU418 **RAYSHADE** (3 Disks)
- GU419 **PRO PAGE TEMPLATES**
- GU420 **PRO PAGE HELP**
- GU421 **DPAINT TUTOR** Learn to use it
- GU422 **SPECTRA PAINT**
- GU423 **THE DESIGNER** Arcade backgrounds
- GU424 **RJ UTILS** Perfect Paint, Image W/Shop

MUSIC UTILITIES

- MU182 **FUTURE COMPOSER** Sound tracker
- MU193 **OCTAMED v1.0b FF579** Music editor
- MU256 **MULTI-PLAYER V1.11A** Music
- MU315 **POWER PLAYER V2.1** Plays modules in MED
- MU316 **PLAY & RAVE V1.0** (2 Disks) Link modules together
- MU317 **DENNIS SAMPLES DISK 2** Madonna, Peeper
- MU318 **DENNIS SAMPLES DISK 3** Baby cough etc
- MU319 **DENNIS SAMPLES DISK 4** Telephone, Big Ben, Wind
- MU321 **DENNIS SAMPLES DISK 6** Mutant Turtle, Star Trek
- MU322 **DENNIS SAMPLES DISK 7** Heavy monster etc
- MU323 **ASSASSINS AUDIO MAGIC VOL 1.1** Lots – Superb!
- MU324 **ASSASSINS AUDIO MAGIC VOL 2** Trackers and Players
- MU325 **SOUND APPLICATIONS A & B** (2 Disks)
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PUBLIC SECTOR

An amazingly high quality selection of programs that you can't and won't find anywhere else but in that oasis for idealists, the public domain. Phil Morse is your guide

With a truly huge selection of PD to choose from this time around, this month's column will concentrate on some of the utterly unmissable stuff that's been coming in from individuals or from libraries – usually smaller ones – about whom we hear little.

There's no music demo this month, partly due to the high quality of the rest of the software, and partly due to the lack of much originality on the music scene at the moment. So if you've created a dazzling Amiga music disk, send it to me!

Next month the big boys in the field get their revenge, but for now, settle back and ready yourself for some of the most innovative, amusing or just plain practical PD this page has seen in a long while.

Lunchtime 4: Yul Brynner's Memorial Toolshed

Lunchtime

Described as the "weirdest magazine on the Amiga", just the kind of claim you get with any of a number of sprawling and unfunny disk magazines, but in this case – as with Lunchtime's last release – the team do not disappoint.

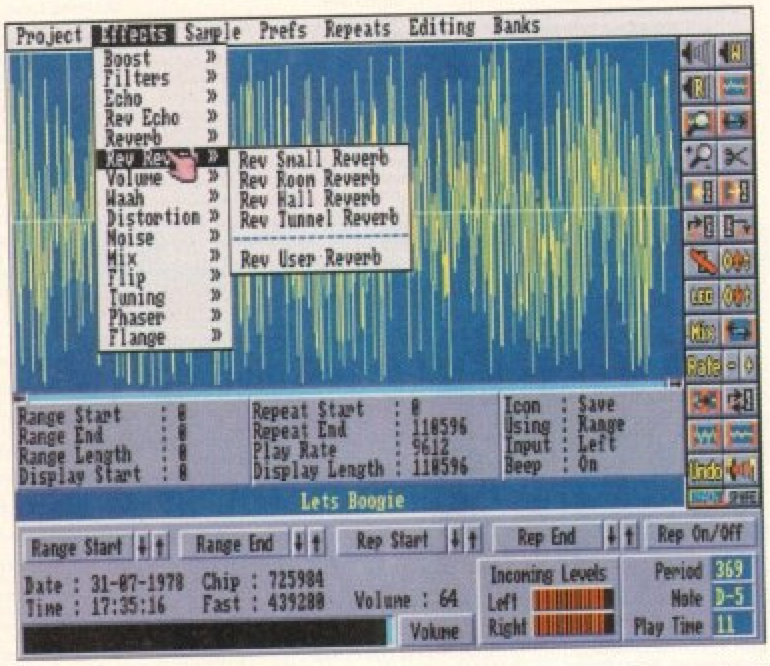
Described by themselves as the result of "seven ugly people being nailed to desks for ten months without food, water or any other facilities apart from being allowed to run around a wheel occasionally and maybe given the odd bottle of cider to drink by sucking a wet sponge," the magazine comes on two disks: An amusing boot disk and a second one containing the articles.

And what a set of articles they are! Controlled by a pleasingly original interface (including a "shush" panel to shut off the different but unobtrusive music), and nested menu-within-menu, each piece is witty, funny, interesting and invariably twisted.

With titles like "The Further Adventures of God II – Jesus' Story" and "Memoirs of a Country Doctor", you can see the opportunities for the many deft touches of subversion laced throughout.

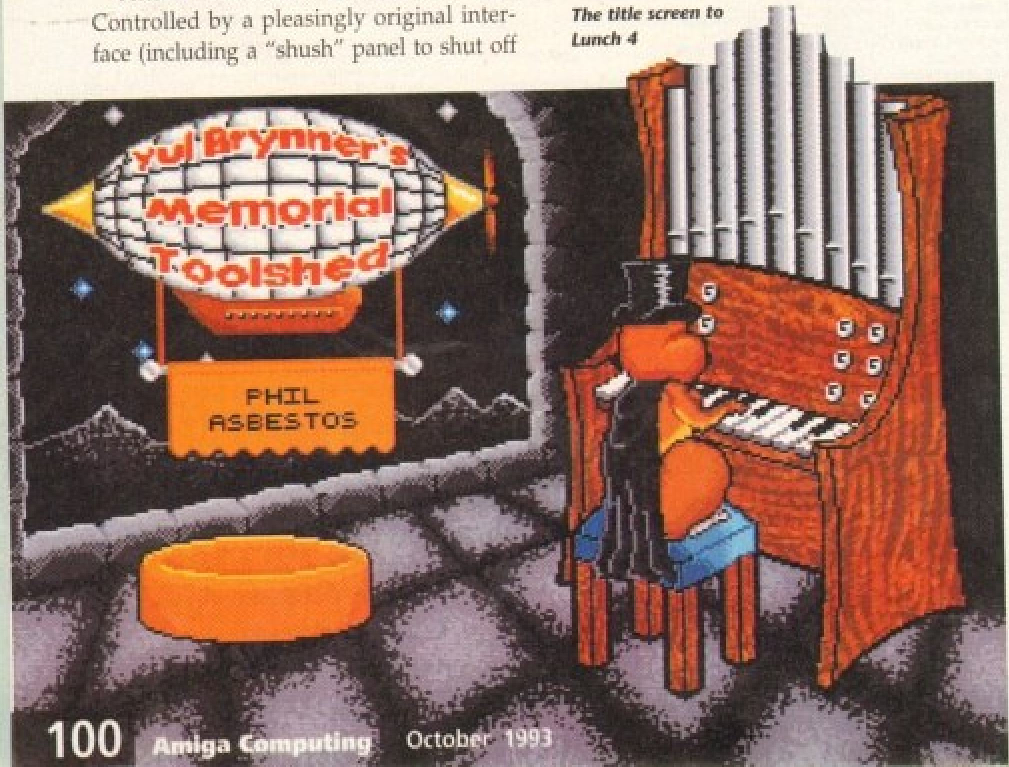
And so we have a boy who "goes through puberty spontaneously" in the short play "Lost in Studio 2 II", a superficial romp through the rising of the Eastern Bloc in "Carry on Communism", and even an environmental section which manages to get the surely common-sense messages it contains across without sounding toffy-nosed, heavy-handed or right-on.

All in all, if you're after a disk magazine that, printed on paper, would hold its own, you can't afford to miss this one. You'd be a fool not to get the back issues too...



Applying a wah-wah effect to a sample in Supersound 4

The title screen to Lunch 4



Supersound IV

KBE Software

Billed as the best 8-bit sampler available in the public domain, Supersound IV certainly appears to be the part. Coming professionally presented with the ability to install it to hard drive thanks to a dedicated installer, and happy working with any 8-bit sampling cartridge, it promises all of the power but none of the gimmickery.

Indeed, if this guarantee of no gimmickery had been fully carried through, this program would have been near perfect.

The interface, it must be said, does look very nice. It's got a professional button-like look about it, tasteful and functional use of colour, and the impression of enough features to sink the Titanic!

There are numerous numerical parameters on display at the bottom of the screen, and the menus hide a large number of sophisticated functions.

There's a seek zero at start/finish set of operations which basically make it easier to start, stop and loop samples without that annoying electronic click you can often be left with.

There are 15 effects, each of which has three to seven different options attached to it, so there's no shortage of sample processing power, either.

As well as all the usual editing tools, the preferences are impressive (you can save and load set-ups, too), and the general impression is of a piece of software written by an enthusiast who is 100 per cent sure of what s/he needs.

Unfortunately, this particular programmer also felt the need to make windows open in an annoying scrolly kind of way which, due to the short amount of time the effect takes, becomes extremely annoying after a while.

The inclusion of a non-standard file requester contributed to my general feeling of antagonism towards the interface when I used it.

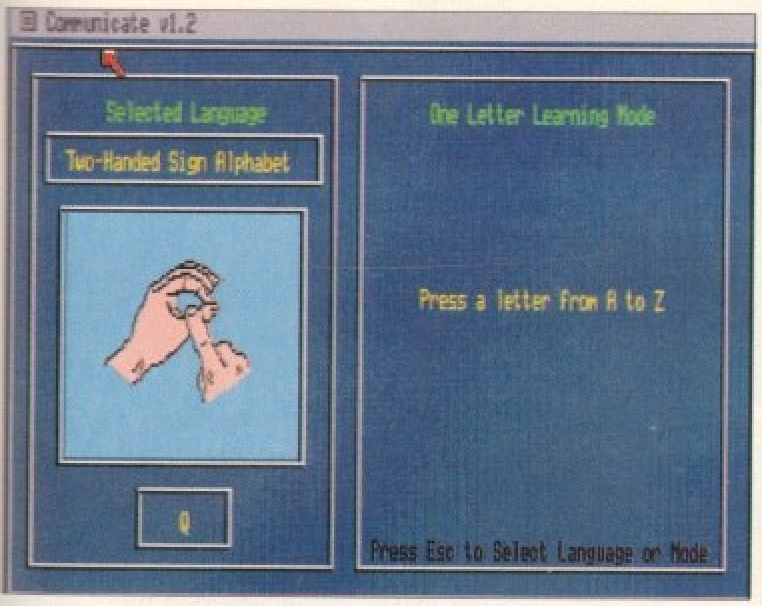
But I'm used to a commercial counterpart, Audition 4, which is a picture of functional ease of use, so maybe I'm asking too much.

At the end of the day, this is an incredibly powerful piece of software which stands as an example of the head-on chal-



Not so much a review this month more a warning. A disk of clip art, entitled Castles, Cottages and Churches has recently made its way into the public domain even though it is, in fact, fully copyrighted.

All references to the firm which produced the original, a company called Artworks, have – along with the copyright notices – been removed from the disk, which has been sold under the



The sign for the letter "Q" in Communicate

lenge the public domain is starting to make to some of the cheaper commercial packages in just one of a number of areas.

Should you not be irked by a bit of flashiness, this will be right up your street.

Communicate

John J Cassar

A novel and impressive program which teaches eight different non-verbal languages. Basically, I cannot praise this package enough, equally for its practical application and its incredibly clever realisation – whoever programmed this knew exactly how to make it as easy to use and thus as useful as could possibly be.

On loading, you simply select a language from a choice of Two-Handed Sign, One-Handed Sign, Deaf-Blind Sign through Braille and semaphore to a "noughts and crosses" alphabet, and press a key from A to Z, for which (assuming you've started with one of the sign languages) the pair of hands in the window will perform the letter for you.

With letters such as J where the indication involves a hand movement, the animation is smooth and clear, and the whole set-up is dazzlingly efficient. It's a perfect example of where a patient computer can outperform any restless human tutor!

Other functions include a full document translator, teach and test section, and a sentence mode. Its application could be widespread, because it is an excellent program that deserves much success.

The Great Escape of Billy Burglar

Magnetic Fields

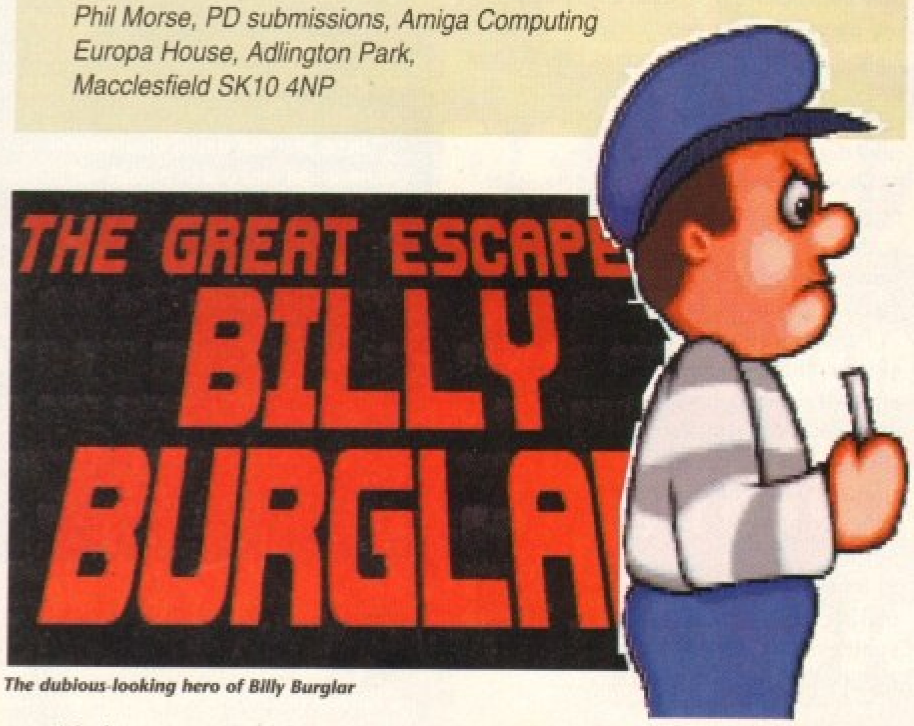
"Bet you can't survive four levels," said the blurb. Never one to baulk at a challenge, especially one written by someone who obviously hasn't done so himself, so I booted this game with some glee.

I wasn't disappointed to discover one of that rarest of breeds, a platform game with an original twist. The programmers refer to it as a scroller, but I know a platform game when I see one.

Basically you play Billy, who is deep in an urban hell, with some authority-associated geezer in charge of a powerful searchlight and an even more worrying machine gun trying to pinpoint you. So your job, for a set amount of time on each screen, is to dodge the spotlight. You are, luckily, incredibly agile, and can jump silly distances with ease, but the spotlight has an uncanny knack of knowing which corner of the inky screen you're currently lurking in and making a beeline straight towards you.

Get caught in its beam long enough for Mr Multiple Sniper to get an aim and you get to die the archetypal three-bursts-of-machine-gun-in-your-stomach-style death, complete with moans and dying groans. Best to keep dodging that spotlight...

Pipping the commercials at the post by coming up with an original-ish platformer, Magnetic Fields are onto a winner here. And no, I didn't get past level 4...



The dubious-looking hero of Billy Burglar

Calling all PD libraries...

...and individuals with anything remotely worth my while having a peek at. If you want something released as PD, or you're a library with stacks of hot new stuff that you haven't seen reviewed in these pages yet, why not drop me a line with a copy, full documentation and everything clearly labelled. I promise I'll at least look at your work.

From music to education, business to utilities – anything you felt deserved your shoving onto a floppy disk, lemme at it and I'll do the rest. Address?

Phil Morse, PD submissions, Amiga Computing
Europa House, Adlington Park,
Macclesfield SK10 4NP

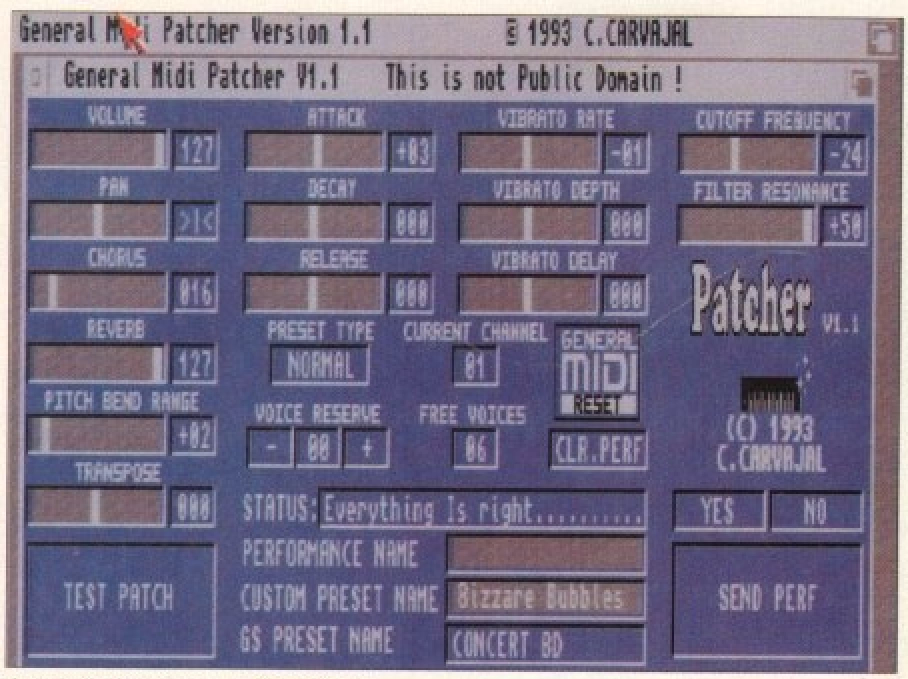
General Midi Patcher v1.1 – Demo

Christophe Carvajal

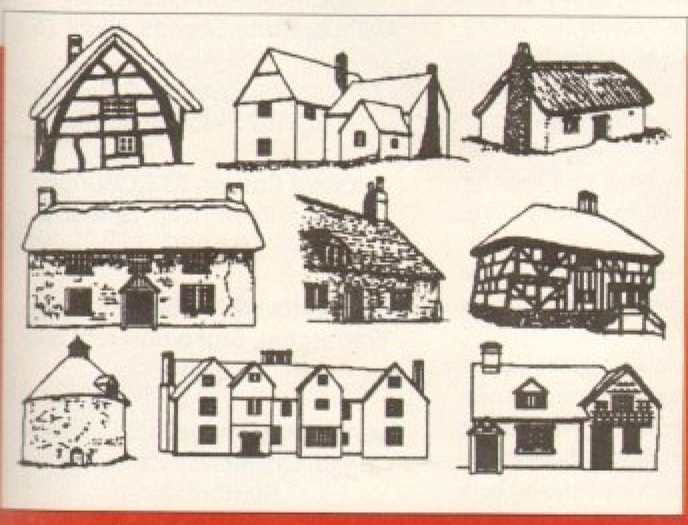
The problem with using the Amiga as a music computer is not its power – we all know where the Amiga stands versus the ST in that area – but its lack of available software.

I don't mean sequencers or samplers – there are plenty of those for both machines – but rather the little bits and pieces that prove essential in using a computer to make music.

One such item which I have been look-



The easy-to-use main screen of GM Patcher



Some of the graphics from the copyright-infringed Artworks disk

name Startronics Public Domain.

Bona fide users of this disk are individually registered to use the images in their work, which if you have obtained it via a PD library you obviously won't be.

Should you have a pirate copy of this disk and wish to continue with its use, you should contact Artworks in order to obtain a genuine version. The address is:

Artworks, 1 Pond View, Ulceby DN39 6SF

ing out for for the Amiga is a General Midi patch editor, a program allowing the user to access all of the parameters which go to make up the sounds within a GM sound module, and mess around with them.

Currently available for all Roland GM/GS synths, this little program is just that. It comes complete with the ability to save parameters out to disk, a very easy-to-use interface and a decent size – less than 200k – which means it should be easy to run it alongside your favourite sampler or sequencer (something the ST definitely can't do).

Once you have saved out the default settings – those your synthesizer was supplied with – and stored the disks very safely somewhere, you can mess around with your sounds to your heart's content.

Programmed by an unemployed French author, this is exactly the kind of area where the public domain excels – filling in areas not covered by the commercial world. It's as good as any, so if a GM/GS patch editor is what you're after and you own a Roland synth, you'd be a fool to go for any other.

By the way, the author is working on making this program compatible with other synthesizers, the Korg GM-compatibles included, so watch this space.

Starbase 13

Magnetic Fields

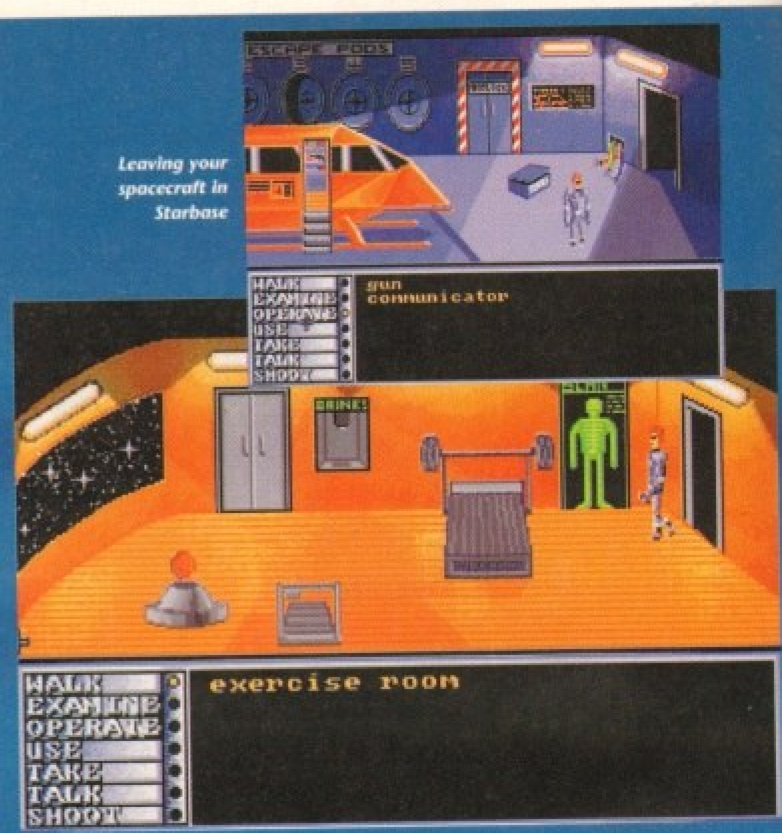
An Amos Pro game (the first I've seen – maybe it's not quite so hard to program in this new Amos update as the moaners would have use believe?) and a very good one at that.

Set in space, but apart from that pretty reminiscent of Monkey Island, Starbase 13 is nicely done with some really atmospheric graphics, and a convincing central character who walks around the locations depicted on-screen at your request.

There are the usual commands like take and examine, all laid out in a neat set to the left of the screen.

In fact, from its tasty semi-animated prologue to the inclusion of a hard drive installation program (many commercial games positively don't have one of these) this is a game which would not look out of place with a large price tag on the front of it.

I don't know how big the adventure is (I'm still trying to take off in my spacecraft) but it's very well done and worthy of any adventurer's attentions.



Leaving your spacecraft in Starbase

Anyone for a spot of exercise?

C.A.T.T. Tarot Card Reader v3

CLR disks (2)

Ooh, tarot! A taste of the mysterious. Written by the equally mysterious Delos (actually a rather more down-to-earth Terry A Edward) this program comes complete with lengthy but informative documentation.

Claiming to be good for newcomers to the Amiga (what about newcomers to tarot?) it is a suitably sensationalised and glammed-up affair, quite reminiscent of a television magic show.

However it is also slick and well done, leading the user painlessly into a full reading. You "pick" a card by clicking a mouse button as the deck in question flashes quickly from card to card. The program – mysteriously – has you flicking from left to right to left buttons all the way through the reading. No doubt this has great significance on the proceedings.

Having completed your choices, the program goes through all of the cards, explaining for you their significance as regards the matter in hand.

This is fun if nothing else, and the stylish and suitable graphics and typefaces all add up to lend a feeling of, intrigue and, err, mystery to the affair.



Part of a tarot reading in C.A.T.T.

Assassins Back to School

Assassins

A bit of a break from the Assassins crew, turning their backs on games to put out an educational compilation.

Three games are presented in usual high Assassins standards, at least as regards the colourful selections menu.

First up is a simple sums game called Counting Fun. Suitable for the child who has just started learning about maths, you can choose one of three difficulty levels depending upon ability.

There's the usual smiley face which frowns when you get an answer wrong, but an awkward user interface and general lack of any direction (there's no definite start or finish to any of the exercises) give this one a minus in my book, I'm afraid.

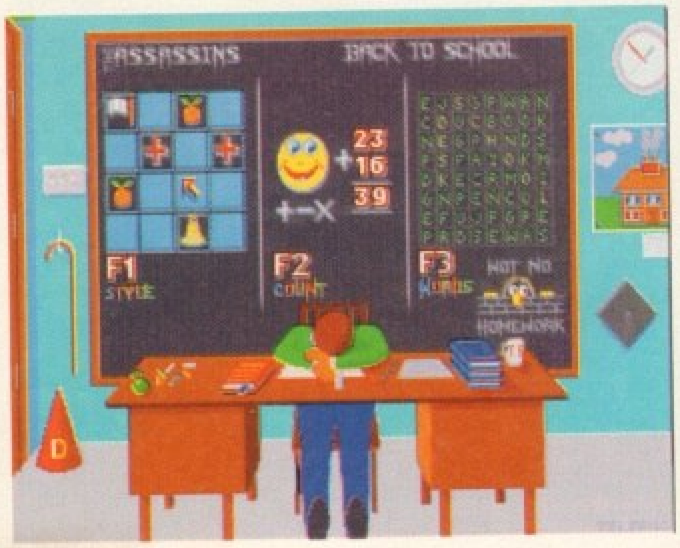
Word Puzzle is a program which creates classic *Puzzler* magazine-style letter grids, hiding 20 or so words for you to find. When you discover a word, you click on its letters and it is automatically erased from the list of words you have to look for on the right-hand side of the screen.

There is a large number of categories for you to choose from as regards the subject your words are all to be connected with (don't choose junk food if you're hungry!) and three options depending upon how patient you're feeling – the computer can only tell you the first letter of each word, or not even that should you be feeling particularly genius-ridden today.

Indeed I have only one complaint against this program – why can't you get it for the Apple Macintosh?

Finally, Style is the classic "pairs" game, where you have a number of cards down-side up and have to turn them over in twos, remembering what you saw where and so matching up pairs, which are removed once identified.

Here each "card" has a cute icon on it, and the user interface is nice and transparent leaving you to work out where that second Sun card was. There is the option to choose any number of players between one and four, too. Simple, but surprisingly good – a little like that first mouthful of Kelloggs' Corn Flakes after all these years.



The impressive title screen to Assassin's Back to School

Contact addresses

Assassins, Stu, 32 Ripley Avenue, North Shields, NE29 75A

Christophe Carvajal, 3 Rue du Gat, 31820 Pibrac, France

John J Cassar, 31 St Mungo Avenue, Townhead, Glasgow G4 0PG

KBE Software, 12 Salters Close, Warrington, Stoke-on-Trent ST9 0DB

Lunchtime (Amiga), 203 London Road, Chesterton, Newcastle, Staffordshire

Magnetic Fields Shareware and Public Domain Library, PO Box 118, Preston PR2 2AW

● *Central Licenceware Register (CLR, CLE, CLU...) disks are available from most major PD libraries.*

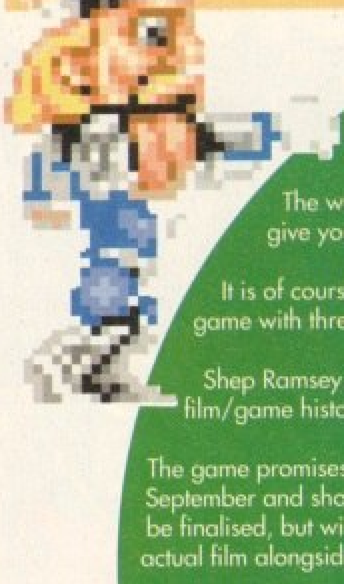

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Millennium strike gold
Plus REVIEWS... BRUTAL SPORTS FOOTBALL • NICKY 2
SOCCER KID • SYNDICATE AND MUCH MORE!
ALSO... GUNSHIP 2000 CHEAT MODE • GAMER PROFILE – GAMETEK
ON THE DRAWING BOARD: F117A, BUBBA N STIX, BLOB & KINGMAKER
LATEST NEWS FROM THE WORLD OF AMIGA GAMES...



Gamer Globe

Just what is going on in the world of Amiga games? Well look beneath, dear friend, and find out...

Is wrestling fixed?





After the phenomenal success of Dr Who – Dalek Attack, Alternative Software are to return with perhaps the only game in existence that's billed as a four-level platform/shoot-'em/beat-'em/wrestle-'em/grapple-'em/slide tackle-'em(?)/ up!

The words wrestle and grapple cunningly hidden in that last sentence should give you a good enough idea of who the game features. Yep, it's Hulk Hogan, and the game is Suburban Commando.

It is of course based on the hit movie of the same name and is described as a fast action game with three difficulty levels, stacks of power-ups, a host of enemies and animated moves from The Hulkster.

Shep Ramsey (Hulk Hogan's character in the film/game) despite having the wettest name in film/game history can do a number of moves from a sliding kick to a jet boot propellant move, whatever that is.

The game promises to remain faithful to the plot of the film. Suburban Commando should arrive in late September and should be great fun for gamers aged from 8 years and above. The retail price is yet to be finalised, but will probably be £19.99. However there are also plans to include a VHS copy of the actual film alongside each copy of the game. This is still in the planning stages and we should know for definite when the game arrives in a month or so.





Hulk Hogan shows off his acting talent in Alternative's latest release

Zool's Gold

Everybody's favourite Ninja from the Nth Dimension has gone gold. European sales of Zool are now in excess of 180,000 units across the Amiga, PC and Archimedes.

Gremlin are also publishing the game across all leading console formats including Nintendo, SNES, Gameboy, Mega Drive, Master System and Game Gear. Yes, I know that last snippet won't interest Amiga owners, but at least you can brag to your console-owning chums about where the game came from first.

Worldwide sales for the nifty ninja by the end of the year are now conservatively expected to top the one million mark. Zool will also be appearing on your TV screens as Gremlin introduce their first ever major pan-European TV advertising campaign as part of their comprehensive launch activities.

In the meantime, PSL – Gremlin's exclusive licensing and merchandising agents – are soon to announce a whole range of new licensees. You can expect your shops to packed with merchandise from toys to T-shirts. The first product is expected to be ready to support the launch of the coin-op from Bell Fruit in September.

It's cosmic... man!



He's the first alien tourist! He has to prove the Earth's existence! He tells gags! He is the star of Codemaster's next release and his name is Cosmic Spacehead.

There is no saving of the planet or rescuing beautiful princesses in this game, though. Cosmic originates from the planet Linoleum and all he wants is a couple of holiday snaps from earth while on his vacation. Yes I know it doesn't sound very enticing, but hey at least it's different.

Codemasters say that Cosmic is an intriguing mix of adventure and arcade action gameplay, set in a world with graphics that reflect the wild stylised cartoons of the 1950s. The majority of the gameplay is an interactive arcade adventure which takes Mr Spacehead across the many bizarre locations of his three main stops (Planet Linoleum, a vehicle factory and a space station) on the way to Earth.

Each destination is divided into many smaller play areas where Cosmic can interact with other characters, and manipulate and use objects to further his quest.

Travelling between the adventure play areas involves the successful completion of one of the 32 arcade action sections.

The making of Cosmic Spacehead is the subject of an entire television programme being filmed by Central Television for broadcast in October. The game is due for release in November.

Can you kick it?

It's all quiet on the football front at the moment, but there's going to an explosion of games later on in the year thanks to Ocean. There are two products currently being worked on, but both are going to be uniquely linked.

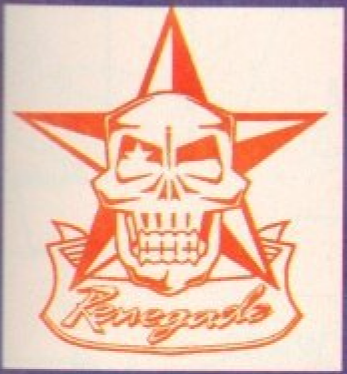
European Champions is a skilful arcade action game pitting the teams from the Premier divisions of each major European country against each other.

The other game is entitled Super League Manager and apparently offers a real test of the budding football manager's skill in guiding a team to the top, aiming for the crown of Super League Champions.

For those of you who buy both products, Ocean have devised a clever link between the two. Simon Alty (Top Ocean PR-type bloke) commented: "As the two products developed side by side, the soccer addicts here in Manchester suggested these extra features. We thought it was a great 'added value' opportunity and built it into the products."

As yet details are still forthcoming, but European Champions and Super League Manager will be available in September.

Renegade in XXXX shocker!



Based in Queensland, Australia and fresh from the world of independent comics come Interactive Binary Illusions, one of the finest new talents seen by the software industry in several years.

Their first game, Flight of the Amazon Queen, will be published by top software house Renegade and will arrive in late 1993 or early in 1994.

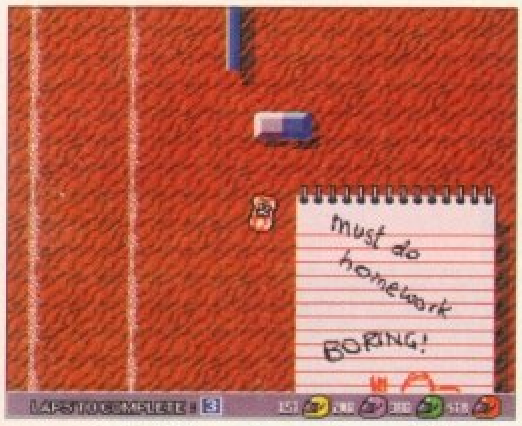
Formed by partners John Passfield and Steve Stamatiadis, and later joined by Tony Ball, Binary Illusions' aim is to produce entertaining graphic adventures that have strong plots, challenging problems and flexible character interaction.

John Passfield commented on his products: "We want to make games that are genuinely fun to play, the kind of game that draws you right into the story and makes you want to see it through to the very end."

For Renegade, Tom Watson said: "John, Steve and Tony are going to prove themselves to be among the finest talents in the games industry. Their wit and imagination are second to none and we are very pleased to have the opportunity of working with them."

Hopefully *Gamer* can grab hold of some screenshots soon because by all accounts Renegade's future products are going to be even better than ever before.

Dream machines?



If you're a regular reader of *Gamer* then you'll know that we ran a story on Micro Machines a couple of months back. We have now got some screenshots of Codemasters' forthcoming release.

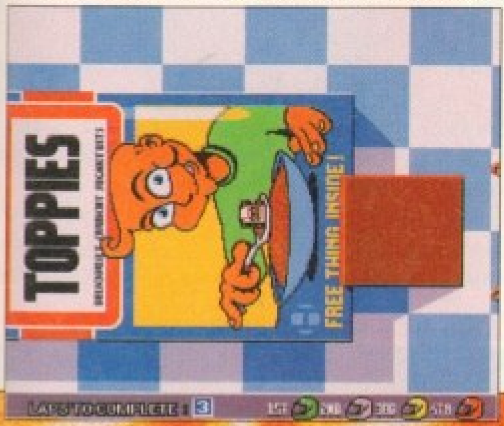
The Sega Mega Drive version has already reached the number one spot in the Gallup Top 40 all–formats chart.

David Darling, Codemasters' director, commented on the product: "Micro Machines has always been recognised as one of the most playable and exciting games ever created."

Having played a demo I can safely say that MM is going to be absolutely massive and almost definitely a contender for the number one slot this Christmas. It may not be wonderful graphically, but other products are going to have a hard time trying to surpass its awesome playability and addiction.

Sports cars, Formula One cars, power boats, combat tanks, dune buggies and helicopters are just some of the vehicles featured.

You'll be able to race them on 27 different tracks laid out on snooker tables, in sandpits, in the workshop, on the bedroom floor – in fact just about bloomin' anywhere! Other features include animated presentation screens, superb music and in–game sound effects. Micro Machines will be ready for release very soon indeed and you can fully expect a preview or even review in the next issue of *Gamer.*



In the minature world of Micro Machines, even your average cereal box becomes an obstacle



Fast frantic and fun. The sandpit level one, just one of many action courses to be found

INNARDS

It's crunchy on the outside and meaty in the middle...

REVIEWS • REVIEWS • REVIEWS

REGULARS • REGULARS • REGULARS

BRUTAL



George Orwell once said – if you want a picture of the future imagine a boot treading on someone's face forever. Well maybe the future has finally arrived – and it's totally brutal!



This is a strange, but true tale. Reader, you may care to stare with disbelief at the page and disregard these words as piffle. But, believe you me, as this hack sits before his heated monitor, these eyes are still shocked and agog. This is the bizarre story of how Brutal Sports Football came to lie in my sweaty palm...

It's a warm July evening, it's late and little Keithy Smith lies in his Sydenham love nest wrapped in a troubled slumber.

Somewhere outside there's a commotion, a cat screeches and several dustbin lids clatter to the ground. There's a large bolt of static and out of the night two hunched shadows materialise.

Without effort they snap the lock on Keith's back door. Hissing and snarling the two shrouded figures shuffle upstairs to where an unwitting Mr Smith lies dreaming about becoming a rock star.

In one gruff instant Keith is shaken, rather alarmingly from his tangled encounter with Morpheus.

"You! Are you Keith Smith, PR man for Millennium Software?" Hisses one of the figures.

"Yes," squeaks Keith.

"Good, you little runt. Now listen and listen good. I'm Bob Tanner and this is Jim Skinner... and you're comin' with us," growls the other.

Through sleep-crusted eyes Keith stares into the half light in an attempt to recognise the unknown adversaries. But it's too late, in a blinding flash all Keith's burning pupils register is a white piercing glare.

The next thing Keith is aware of is noise. The noise of a crowd, a very large crowd. As his burned-out eyes open and look around for answers he realises he is no longer in suburban Sydenham.

Instead, he stands in a large brightly lit room. Keith, mouth draped open, slowly traverses his head to take in the scene. Around him people hurry by dressed in strange clothes carrying weird equipment.

Then, out of the corner of one eye Keith notices two figures pointing in his direction laughing hysterically.

"Ha–ha, look at you, punk!" points the one who called himself Bob.

Keith slowly stares floorwards and is aghast to find he is standing clad only in a pair of white Y-fronts and a pair of slightly holey M&S socks. But, before he can contemplate the unquestionable loss of credibility of the situation, or question what has happened to a man of such natty dress code, he is wrenched right back into his dilemma.

" Right, Mr. PR man. We've got just five minutes to explain this to you so you'd better listen," balls Jim. Wide-eyed, Keith tries to weigh up this incredulous situation. Why am I standing half naked, being screamed at by a hybrid rhino in a T-shirt and a reptile-type lizard wearing a rather loud sports jacket? Have I been spiked? Have I gone mad? But before Keith can question his sanity further...

"Listen bud, this is the future. We've beamed you into the year 2023 to show you the ultimate destiny of sport. Me and this stinking warthog Bob are the top commentary team for TV network G.O.R.E.

"Out that armoured window takes place the most gruesome, violent, blood-lusting sport in the known universe... Brutal Sports Football. We get 600 million psychotic viewers a week who want to see the mutants knock seven shades of..."

"Mutants?" Intervened Keith, hoping his question wouldn't render him an idiot.



It's kick-off and we all sing... "The referee's a w-wobot?"



No, it's not an out-take from scanners. It's just another ordinary kick about in the park

"Are you stupid? Don't you know nothin'... Shoot! Just after the second apocalypse, scientists discovered a crack in the space-time continuum which revealed a parallel world full of ugly mutants.

"A bit of fine-tuning from the boffins and these freaks can regenerate like insects. The humes love it, watching two teams of gooks engage in end-to-end bone–biting action, where the ball has sweet nothin' to do with the outcome. Awesome!" drooled an enthusiastic Bob as he drained another tin of Grunt beer.

"But... what do you want with me?" Trembled an unknowing Keithy.

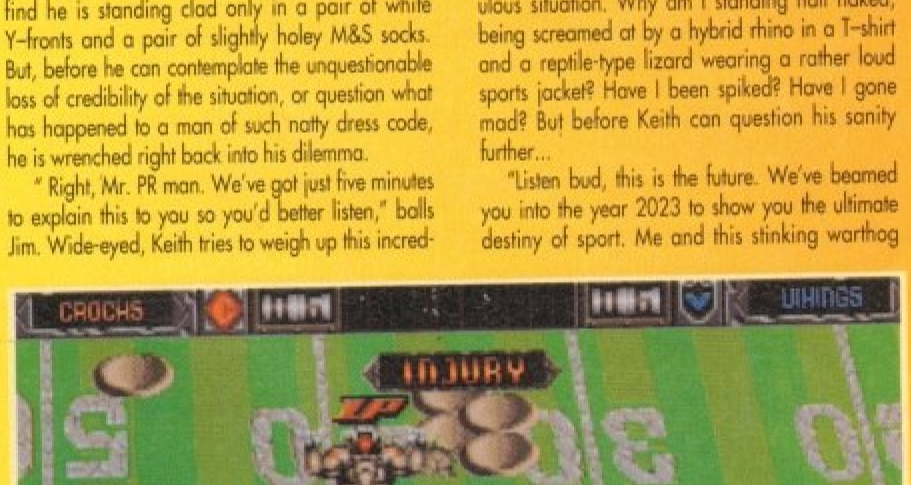
"It's like this drippy-draws, Bob and meself don't wanna wait 40 years to earn big bucks, so we're givin' you somethin' to make your time aware of our beloved sport,"

With this Bob stuffs a computer disk into Keith's clammy palm and barges by.

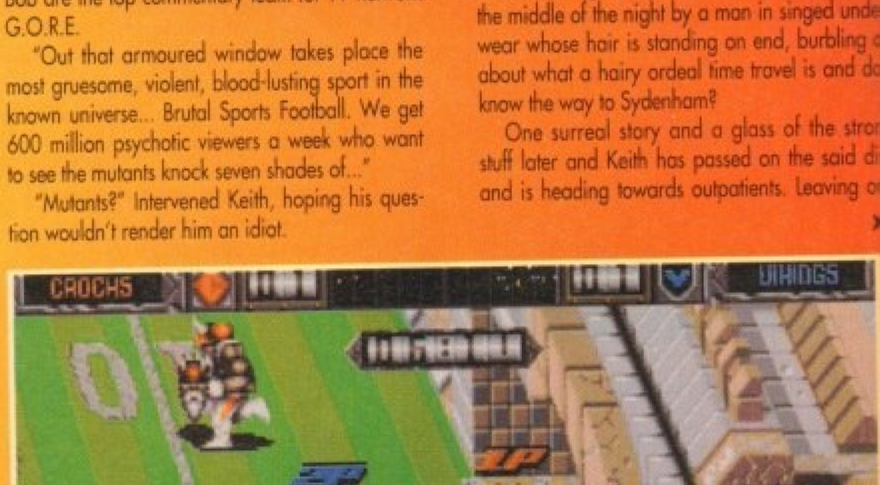
" See ya worm. We're live in five!" snorts Jim slapping Keith on the back, rendering him desperate for breath. But before he can splutter any words of response, the blinding light again fills his world.

Now, imagine my surprise to be woken up in the middle of the night by a man in singed underwear whose hair is standing on end, burbling on about what a hairy ordeal time travel is and do I know the way to Sydenham?

One surreal story and a glass of the strong stuff later and Keith has passed on the said disk and is heading towards outpatients. Leaving one ➤



It's injury time and that equals total mayhem and a fight to the death



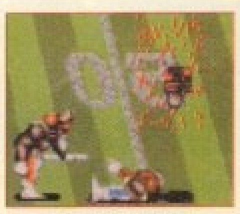
Goal! Hulk Hogan celebrates his hat trick and let's face it's gonna argue?

SPORTS FOOTBALL

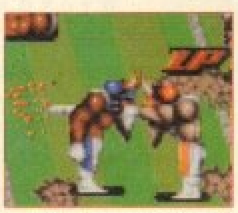


Let's talk dirty!

GAMER GOLD



Aced – The removal of the opponent's head in one attempt.
Atomised – Complete annihilation requiring the Slab Man.



Belly Vent – Slashing of opponent with a sword across the midriff.



Burn-out – Paralysing lightning bolts.
Bootheeled – Running over an opponent without stopping.
Cannonball – Running at full tilt into the opponent (see Bootheeled).
Crying time – The ultimate defeat.
Contusion confusion – Both sides involved in a mincing.
Duke – The toughest of players.
Eagled – Poked in the back the head with a sword.



Freewheeling – Throwing opponent's head around instead of the ball.
Guillotined – Decapitation taking more than one attempt (see acing)



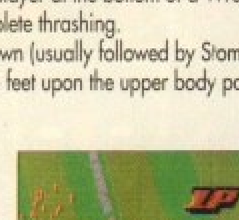
Hare run – The collection of a speed bonus.



Iced – Locked in a temporary ice prison. This allows the other side to run rings around you.
Jock – The match commentators.
Jules Verne – Sending the opponent to the centre of the earth.
Kiss wall – The deliberate squashing of the other player's face against the perimeter wall.
Kiss dirt – The deliberate pressing of the other player's face into the field.
Knuckle sandwich – The noble art of the pugilist.
Kebabed – Skewered on descent from a jumping catch.
Lamonting – Shamed into resigning. This term is usually reserved for management.
Minced – Where two or more of the opposition use swords to turn the player into burger meat.
Rolled – Two or more players Spilling the ball holder.



Running on the spot – A mass Stomping .
Recycled – Regenerated player.
Ratatouille – The state of a player after a Mincing.
Sandbagged – A player at the bottom of a Wrecking Job.
Shaming – A complete thrashing.
Spilt – Knocked down (usually followed by Stomping)
Stomp – Use of the feet upon the upper body parts.



Splicing – Expertly separating the ball and the opponent from behind. A more precise skill than the Belly Vent.
Slab man – The unlucky guy who has to scrape the players up from the pitch.
Shinned – Leg tackle from front.
Turkey Shoot – Easy victory.
Wrecking job – A gang of players bundling the opponent.





hack to finish this saga.

The above story explains a great deal of the background and atmosphere to the setting of B S Football. In fact, Jim and Bob play a major role in the overall presentation of Millenniums' latest romp.

They are also totally responsible for the 'Brutal Speak' which also features frequently.

Play in the sport of the future is battled out between eight different teams of muties from the nether world (although a match only features two at a time.)

Spectators of the future have the choice of who to support, so us present tense type folk have the same option.

You can choose between 16 different teams and perhaps take on the mantle of the lizards, rams or rhinos. There are also less mutated human–esque sides like the Barbarians or the Giants.

Once you've pledged allegiance to a particular bunch of marauding muties the next step is to decide what form of onslaught is your preference.

The choice varies from league action, knock–out (no pun intended) cup or an unfriendly.

In the footy of the future there are no structured rules and guess what? Jim and Bob's version from times to come is no different.

Once you're in control of your band of ruffians, whether it be against the computer or someone who started as a friend, it's no holds barred. The only real prerogatives are to either put the rugby–esque type ball into the net (well, it's more like a cave) or to totally rip your opponents limb from limb.

In the future the players will have an ample amount of weapons and power–ups. Being an accurate simulation, rest assured carnage lovers, the computer version contains all you'll ever need.

Whether it's a simple sword you require to perfect a belly vent (see guide) or whether you'd like to employ the lightning, fireball or forcefield, they're all there to help cause chaos and carnage.

Play is absolute madness and there are tons of ways to maim or injure your opponents, all depicted with some gruesome graphics. As the debauchery ensues and the mangled carcasses start tombling to the ground, so the blood-stained grass churns itself up.

By the time the pea in the whistle squeaks and the remnants of the teams stagger or are dragged headless from the turf, it's the devil's own task for the poor groundsman to renovate the flesh-tattered turf.

Meanwhile in the changing rooms the remnants of the grunts can relax and enjoy an energy boost and some first–aid while perusing the stats.

They also get the opportunity to regenerate severed limbs, craniums and then throw copious amounts of beer down their lacerated larynxs.

This may sound futile (not the beer) but when engaged in a league battle, it's important that your battered bruisers get the elixir of life they require to win. The main reason for this is that the more knocks your geezers get, the weaker they become.

Overall B S Football is first rate. The sprites are well defined and large enough to make sure all the OTT carnage is there for your gory eyes to take in. The sound to is excellent and very beefy. In fact, when one of your poor unfortunates takes a "stomping" you can really feel it.

Brutal Sports is a great way to spend a lazy evening with some mates relieving that pent-up aggression. It's brilliant fun and because it's interactive with friends, it'll keep you in stitches for months.

As for the future, we'll have to ask Keith what to expect. That is, when he's released from Cambridge Sanitorium for the Mentally Impaired.

In the meantime, dwell on this thought. Buy Brutal Sports or keep one eye open late at night for a T–shirt cladded rhino accompanied by a Lizard in a chequered sports jacket!

SIMON CLAYS



Ever fancied becoming a rabid mad dog for a bit... now's your chance



Choose your fate...(gulp) none of these seem like pacifist type options



They say lightning never strikes twice. Tough droppings if you're a lizard



End of play and the lads get an opportunity to reflect on missed opportunities, squandered chances and tactical errors. It's also not too bad a time to find your limbs and head to make sure they'll still fit

VISION

GGGGGGGG

AUDIO

GGGGGGG

DIFFICULTY

GGGGGGGG

LASTABILITY

GGGGGGGGG

Brutal Sports Football is totally engrossing schlock gore. Smart graphics which leave nothing to the imagination coupled with chunky sound which make this futuristic footy brutally great fun.

90%

Publisher ➤	Millennium
Developer ➤	In-house
Disks ➤	1
Price ➤	£25.99
HD Install ➤	No
Size ➤	1 meg

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- +3281 CAR WARS^
- +2831 LAME ST PORTS Atari ST game port overs
- +3324 ASTEROIDS '92^ Very Nice Asteroids variant
- +3280 SPLASH^ Is Battleships
- +2833 SHOOT 'EM UP'S vol 1 Compilation of shoot 'em up's great.
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- TET19 TETRIS 2 The original
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Essential for A1200 owners

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- + = Kickstart 1.3 & 2.xx (A500+/A600)
- ++ = Kickstart 2.xx
- ^ = Also works on Kickstart 3 machines
- ^^ = Kickstart 3 machines only (AGA)

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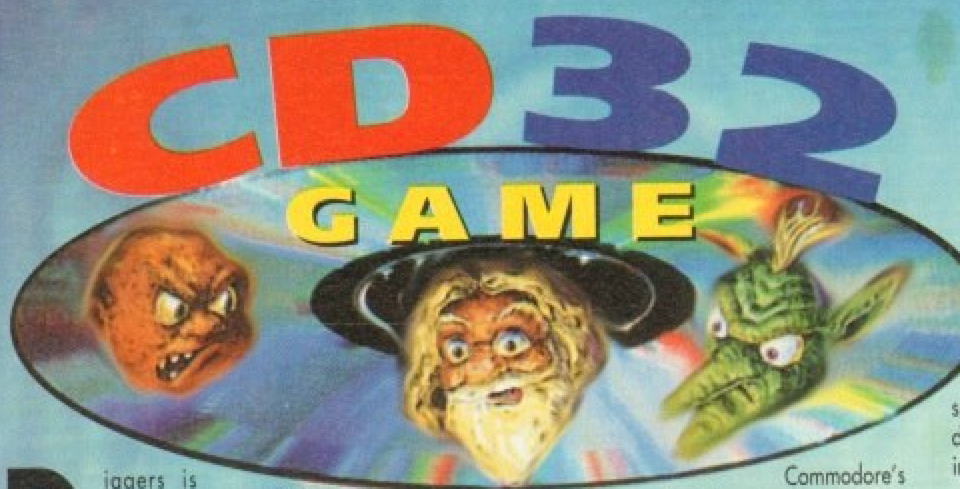
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"Suppliers of Amiga PD for over 5 years"



Will U dig it? Yes, you will. Thanks to Millennium you can now pick up your shovel, sing "Hi ho, hi ho!", and off to work you can jolly well go...

Diggers is the hit of the year! That's a bold statement only seven words into a review, but the game is going to be absolutely massive.

I desperately want to avoid people likening it to Lemmings. Diggers doesn't play, look or sound like Lemmings, but it does have that powerful sense of originality and freshness about it.

People are going to compare it with Psygnosis' suicide-'em up and the comparisons are going to be very unjust. Via the use of Mystic Maude's shiny crystal ball I can see how it will happen...

A casual glance and you see a tribe of small sprites controlled with a clever icon system. People will dismiss it as a Lemmings clone, which is not on at all because anyone who casually ignores Diggers will need their head seeing to.

Now, as they say, for something completely different. Notice if you will that lovely title and the moniker after "Diggers". Yes, CD32 – Commodore's killer console – is here, and boy oh boy is it looking good.

Good enough to eat. Good enough to take home to your parents, marry and live with in a flat in Peckham. Good enough to make every other two-bit console pale in comparison.

Sega and Nintendo owners be very wary of Commodore's new baby.

Taking into account the CD32's capabilities, the subject of digging might not exactly make for a good release. OK, imagine two different PR spokespeople, each trying to impress a crowd of dribbling, psychotic journalists who are more interested in the bar than the products.

One PR person has a shoot-'em-up, the other has Diggers. The shoot-'em-up goes first:

"Well the game is about a superior alien race who have taken over the world and it's your job to take to the dark and desperate streets in a bid to wipe them off the planet.

"It has an atmospheric soundtrack that is of digital CD quality. The graphics are in 256 colours and features blood and gore on a global scale."

The journalists are interested and gasp in excitement as the product is presented on a TV screen. Everyone applauds and tries to blag review copies.

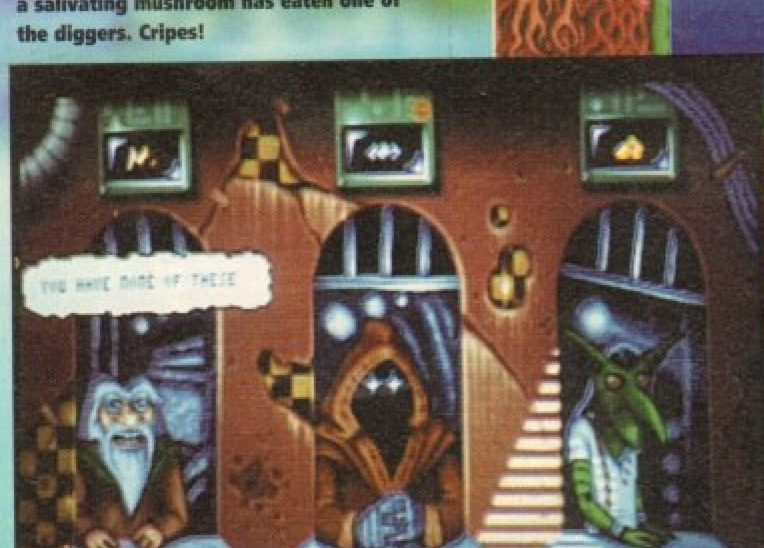
The Diggers PR person now takes the stage and utters

CD32 DIGG

GAMER GOLD



The F'Targs start their quest and already a salivating mushroom has eaten one of the diggers. Cripes!



The bank where you can sell your mined jewels for a cash bonus. It's not all work, work, work...

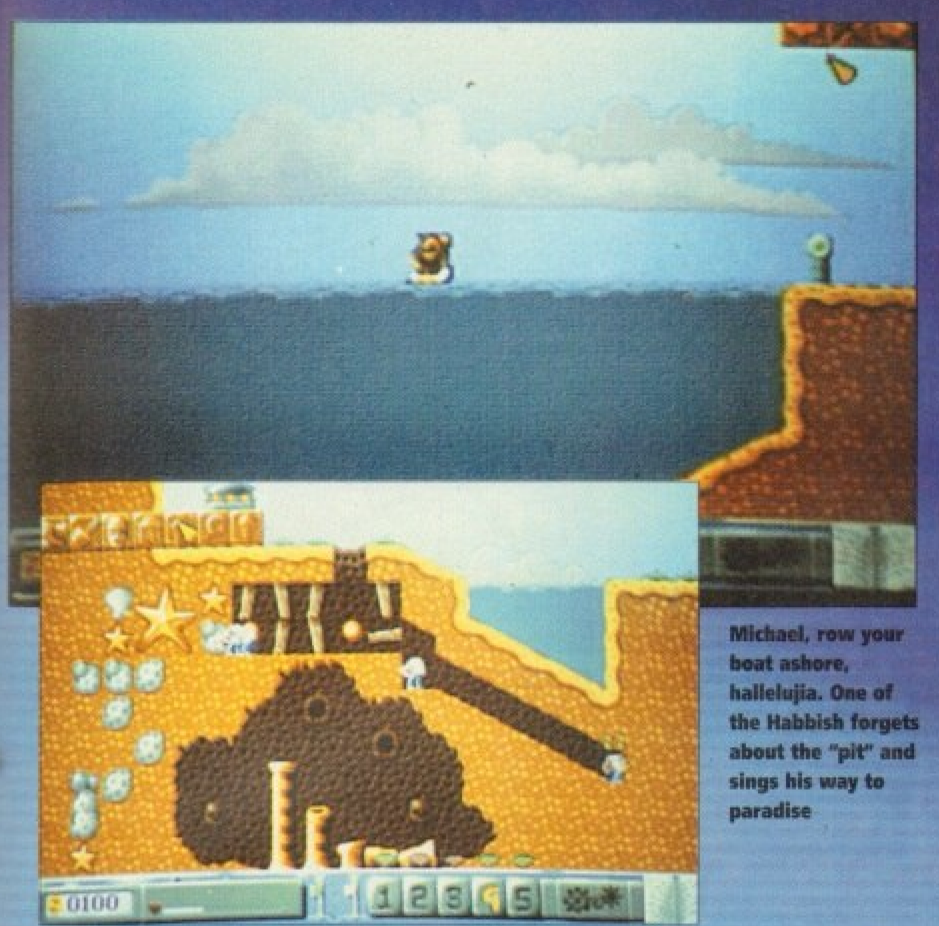


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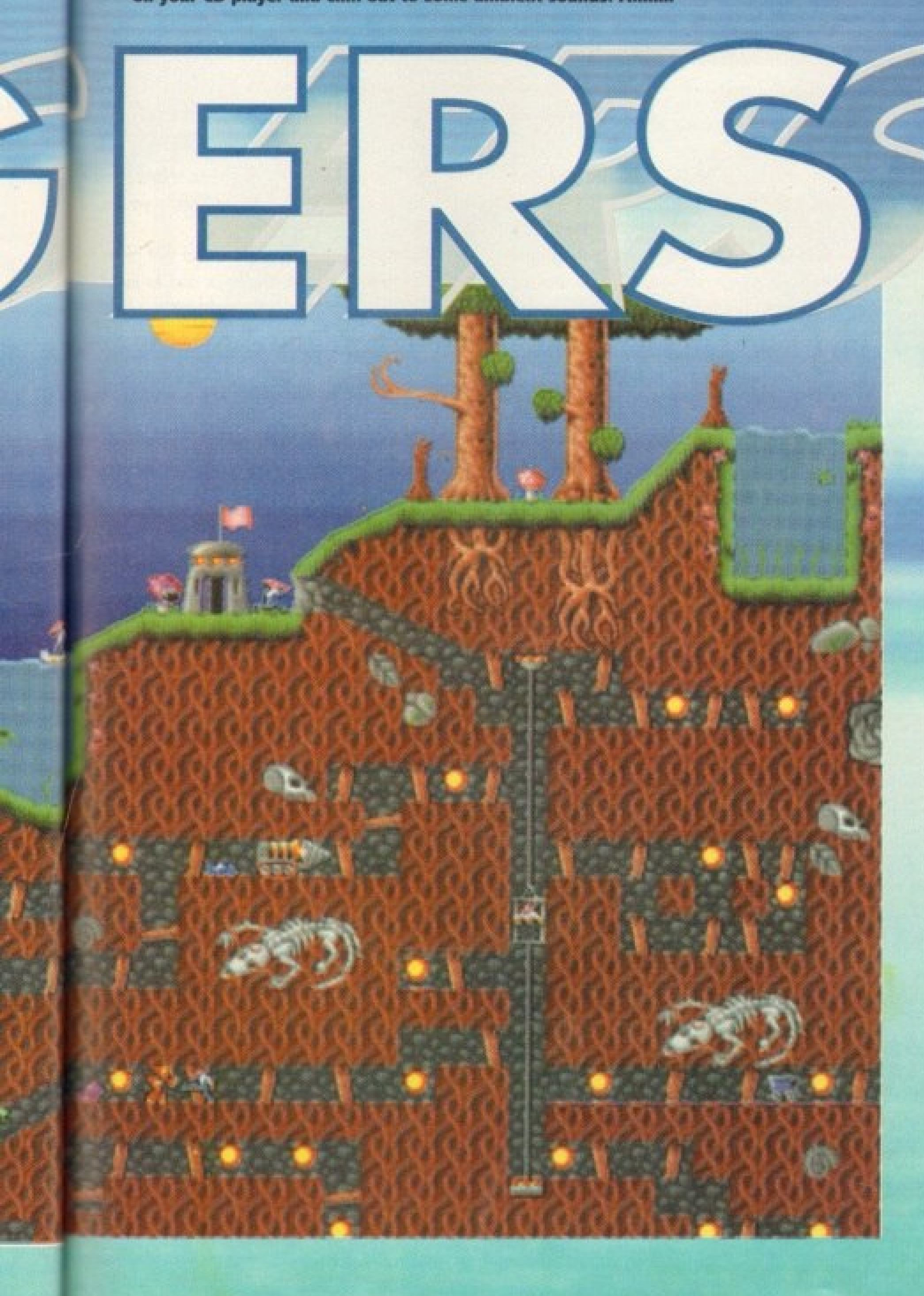
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Michael, row your boat ashore, hallelujia. One of the Habbish forgets about the "pit" and sings his way to paradise

Even if you don't want to play diggers, you can slap the sound-track on your CD player and chill out to some ambient sounds. Ahhhh



Those tribes in full...

Habbish



An enigmatic secretive breed who are rumoured to be extremely clever and have developed special telepole transportation powers. These hooded creatures are the weakest of the races although they could continue digging for a long time. They are very impatient and soon lose interest in digging, preferring whenever possible to pilfer valuables mined by others.

The Habbish are a mystical order ruled by their lord High Habborg. This exalted being has decreed that his followers must build a fabulous temple complex, encrusted with gold and jewels in his name. The Habbish have begun this work, but money is running out. T hey need to mine as many valuables as possible in order to complete the temple and pay off the galactic repo–men, the baseball bat-wielding Thungurs.

They are governed by a most peculiar calendar and at various unpredictable and often inconvenient times they will drop everything to gather into a circle and chant to the Lord High Habborg.

They become easily upset if their digging plans are unsuccessful and bow to their master for forgiveness if they do not regularly mine valuables.

Grablins

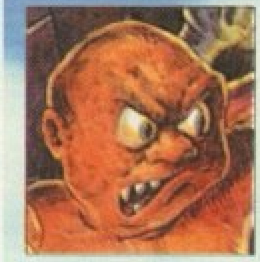


Ideally suited to mining. They are very fast diggers and can keep going for long periods of time without stopping. Their small size makes them very mobile about the mines as they can squeeze into narrow fissures and work in low tunnels. Although strong, they are not very good fighters and can be easily defeated by the Quarriors.

Their only weakness is for the fiendishly strong drink, grok. Although described by others as an unacquired taste with a smell worse than the breath of a fire-breathing Scabrosaur from the swirling slime pools of Sulphuria, and more useful as a defensive shield against thermo-nuclear war than as a drink, the Grablins cannot get enough of the stuff.

Unfortunately, because the ingredients that make up grok are extremely expensive, the grabs constantly need money. Their ultimate aim is to save enough for their own brewery. But due to the side effects of brewing grok, they first have to buy deserted planet on which to site it...

Quarriors



A War-like race this lot, a bunch of real rough diamonds. As their name suggests, the Quarriors began searching for riches in quarries before graduating to open cast mining then digging.

They are the strongest of all the races and also expert saboteurs with dynamite, but due to their size are not well adapted to small, cramped mining conditions.

They tire easily and are slow at digging, although they are extremely reliable and patient. They do lack initiative and tend to miss golden opportunities.

As a whole, they are flat broke. This is due to the fact that they were recently tricked by a second-hand arms sales creature. Their ambition is to build a fortified encampment where they can practise weapons and digging skills safe from their enemies.

F'Targs



A resilient and extremely curious breed of creatures who are great collectors of scrap metal. They have an insatiable desire to build things from scraps that they are always picking up. As result of this, their buildings and machines all have a shambolic, patched-up appearance.

The F'Targs are the second fastest race of diggers. Although slower than Grablins, they can continue mining much longer than the others. Although they enjoy digging, they are easily distracted by objects that take their fancy.

The desire to collect often gets them into trouble outside the mines. They are not very aggressive or good at fighting but if hurt they can heal themselves twice as quickly as any other diggers.

Their ambition is to collect enough money to build a proposed Museum of Metal Marvels (nicknamed "the scrap-heap") in which they wish to house historic scrap and sculptures of an unusual or enlightening nature.





the immortal words: "Well it's about mining and digging..." and suddenly all the journalists race to the bar and get mindlessly drunk.

This leaves our hapless PR guy all alone with his head down muttering about how it's not his fault and how rubbish the subject of digging is. Yes, well it's not quite like that. Digging might sound a boring subject to base a whole game on, but Millennium have changed all the rules and made a classic that will be adored by everyone who plays it.

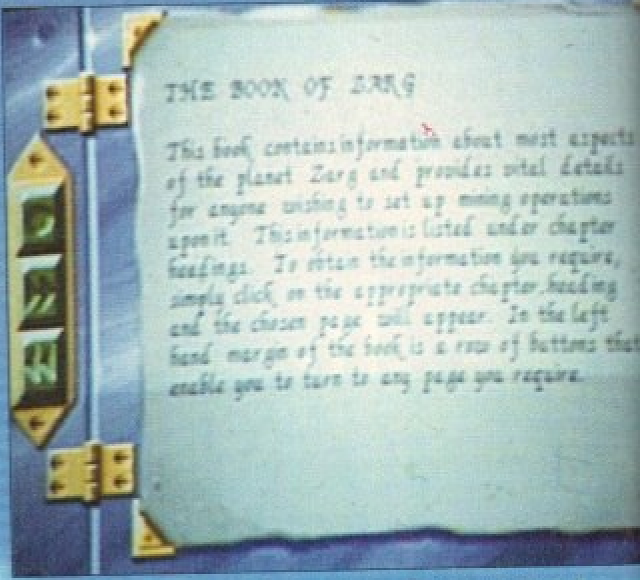
It's set on the planet Zarg, and four races of Diggers are hurrying towards the Zargon Trading Centre. The reason is that it is the glorious 412th day, whereupon the planet's authorities allow a month of frenzied digging for diamonds and treasure.

Your first job to do is to select a race of diggers to control. Each race is detailed elsewhere on these pages, but basically all have their own strengths and weaknesses. You select the race you feel best suited to carrying out the job. The authorities on Zarg promote healthy competition by placing another race to dig against. The aim is to eliminate the other mining teams and eventually dominate the 33 mining zones.

This can be done by either killing the opposing mining team or by raising a set amount of cash by selling the jewels that you mine.



Pick your race of diggers, the area you want to mine in, admire that funny looking bloke's goldfish and then you can start your quest



The ever-accommodating interactive book of Zarg which if you are stuck will help you out of those sticky situations

PSYCHOTIC

Thus you have a choice of how to play. The first is by being sensible and setting up a good mining operation. The second, and my personal favourite, is by being totally psychotic and going after the "enemy" with the intent to kill, mess up their mining operations and steal all their jewels. Yeah!

Control is via the CD32's joypad, but you can plug in a mouse and use that instead – it's down to personal preference. You command the diggers using an icon system, which enables them to run, teleport, pick up or drop items and, err, dig.

Each of your team has a life of its own and is able to make independent decisions (whether they be good or bad).

Once you've started mining, you will happen across several jewels, which you can take to the bank to sell for hard cash. This can be saved to try and win the level.

Alternatively, you can go to the shop where you can buy items to enhance your mining operation such as tunnellers, telepoles, first aid kits and so on.

Diggers is a strategy game of sorts, but it has so many different aspects that it cannot be simply classified it as just strategy. The word that describes it better than any is quite simply "fun".

You might think that £35 is a bit expensive for a CD, but Diggers will last you ages. It contains 33 levels with well over a million locations throughout. Even if you manage to complete it, you will still be able to play it again and discover new sections and new ways to complete levels.

It's been developed exclusively for the CD32 rather than adapted for it and has some unique features that won't appear in the A1200 version, such as the interactive book with over 100 pages of information.

The CD version has more than 15Mb of game data and uses 256-colour graphics throughout. It also makes full use of Commodore's AGA chipset including 64-pixel-wide sprites and 24-bit graduated backgrounds.

And because it uses CD technology, you also get CD quality music and sound effects. If that confuses you then I'll simplify it. What it all means is that Diggers looks and sounds wonderful.

I have to hold up my hands and say that I've skipped over most of the game's features for two reasons. Firstly there isn't enough space and sec ondly no matter what I say I just know you'r going to buy it anyway.

Millennium have created a product that play like a demon, has great graphics and brillian sound, and is so addictive it should have a littl warning sticker on the box.

I love Diggers. It's a classic, and words simpl do not do it justice.

JONATHAN MADDOC

VISION

AUDIO

DIFFICULTY

LASTABILITY

95%

Diggers is the best product I have seen in a long time and you'd have to be a complete mug to miss it. Brilliant graphics, sound and playability, and it will take you almost the rest of your natural life to complete it.

Publisher ➤ Millennium
Developer ➤ In-house
Price ➤ £34.99

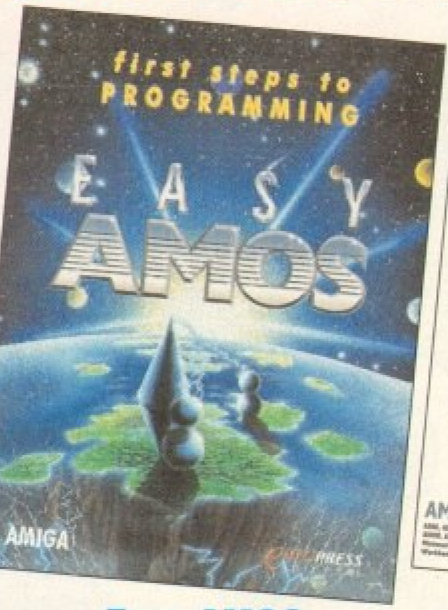


A fine example of F'Targian mining. Notice the tunneller and very smart and swish lift. That's the way to do it!



Cloaked and swaying, the Habbish decide to pray to the High Lord Habborg.

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AMOS Professional		Compatible	Compatible			Compatible
AMOS Pro. Compiler	Compatible			Compatible	Compatible	

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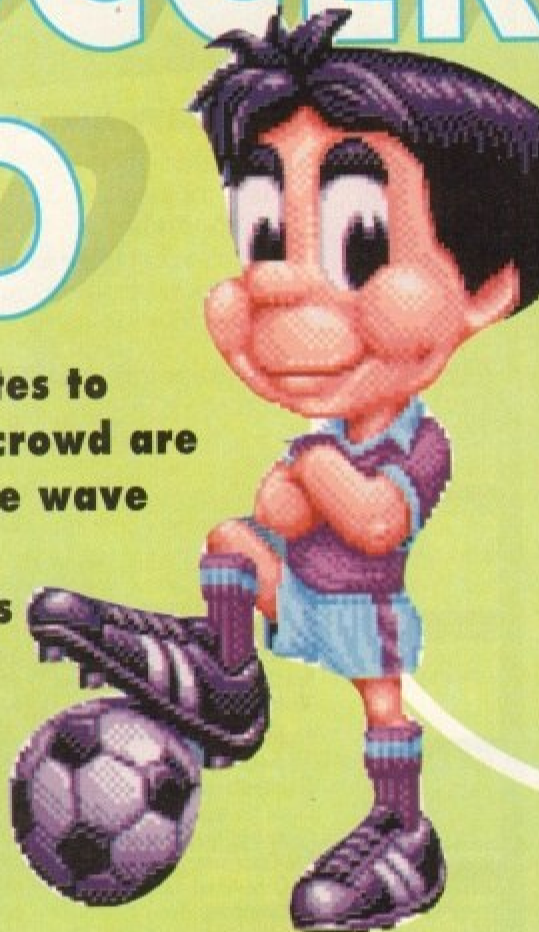
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Tel: 0625 859333 Sales: 0625 859444

SOCCER KID

It's five minutes to kick-off, the crowd are busy doing the wave and Soccer Kid's tying his bootlaces. Join me now as we go live to the studio

GAMER GOLD



Well good afternoon and welcome from me, Jimmy Hill..."

"...and me, El Tel' I'm a geezer and thick as two short planks, but I love Tottenham' Venables."

"Yes, thank you Terry. Anyway you join us just minutes from the kick-off of the big review of the new boy, Soccer Kid. Now Terry, what do you make of it?"

"I'll make a mess of it like always. But, the fans... the fans love me. 'Ere did you know I writ Hazel, made Nicholas Ball an 'ero... for a bit?"

"Yes, but what about the kid whose name's on everyone's lips at the moment?"

"Naah, Sugar he'll never take me alive... and the players they love me, Vinny and Sammy and the big lad at the back and there's Vinny and where were we?"

"Err... Soccer Kid. Now I think my experience in Saudi where I creamed a right wad off my personal friend the Emir has taught me absolutely diddly. But that's another story.

"It's a game of two halves and it's normally at this point where we disagree and ramble on at each other aimlessly without coming to any conclusion... what do you say Tel?"

"I couldn't disagree more big chin. Did you know I was born in the Smoke without even a pair of boots to my name and now I'm an emprasar... empras... empra... self employed and loaded?"

"Yes indeed Tel, now where's my old wooden Thunderbird mate, Alan? I was the best centre back in the universe."

"Hanson? What's that, still in make-up? Tch, it doesn't surprise me, he wears more war paint than Bet Lynch".

"Anyway from me and Tel it's over to John Motson whose down on the touch line... John... John?"

Well, actually readers, it's not the incomparable Mr Motson, but I figure you realised that already. Anyway, what about the real issue at hand (or foot) – Soccer Kid? Strap your shin pads on, pull up your socks and let's dribble together down the metaphorical wing of a review.

Like most dwellers in the land of home entertainment, I've been waiting for what seems like an eternity for a glimpse of this little 32-panelled beauty.

Finally, after the best part of 12 months of cartoon strip build-up, Soccer Kid is set to volley his way right into the back of your net-emblazoned monitors.

Basically it goes something like this. The year is 1994 and the World Cup finals from the good ol' US of A are in progress.

England haven't qualified. Scotland have, but have decided it'll be cheaper if they buy one-week return tickets because once they've been outclassed by the Samoans they'll never win their group.

Anyway, it's actually Finals day and a capacity crowd waits with baited breath for the ref's whistle. All around the world, satellites beam pictures to countless homes. In one such home, in one such front room glued to one such TV sits Soccer Kid.

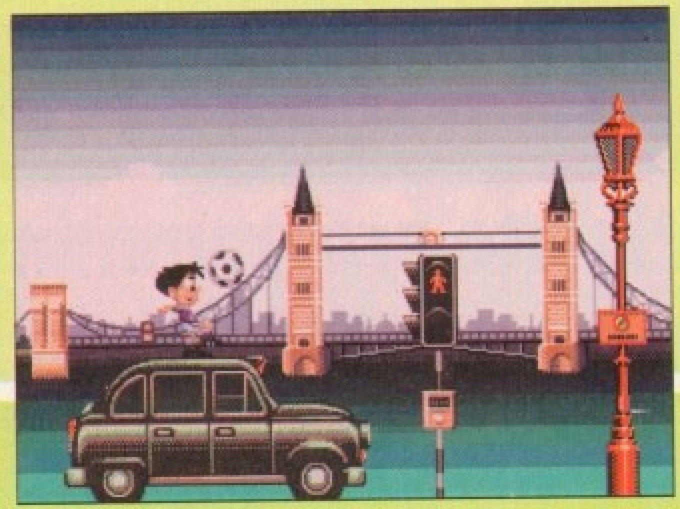
Meanwhile, high above the stratosphere in deep space a thoroughly nasty alien pirate, Scab, scans for trophies of great value to add to his collection.

You can well imagine Graham Taylor attempting this method to get his mitts on a trophy. Let's face it, it's as good an idea as any we've seen yet from our master tactician.

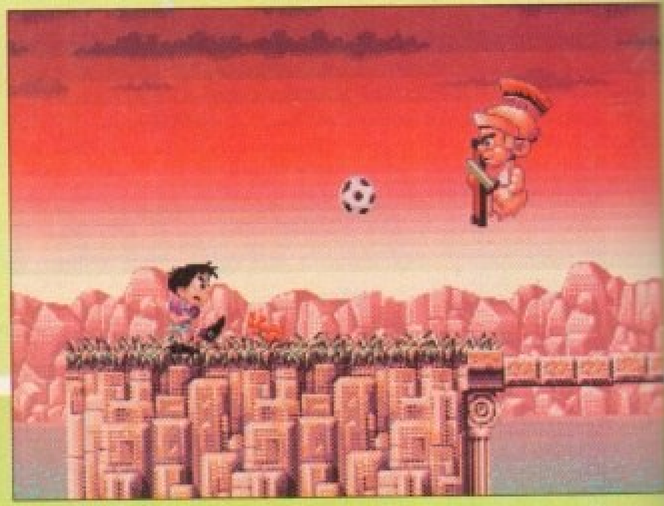
Scab picks up a signal on his equipment as it scans over planet Earth and oh no, it's the World Cup. Salivating profusely, the alien materialises into the American sunshine to see the most wanted footballing jewel glinting in the brightness.

Suddenly the stadium is plunged into darkness, the crowd are aghast, but just as quickly as the inky blackness envelopes everyone, the light returns. As people rub their eyes to re-accustom themselves to the light, they are struck dumb with horror to find the gold statuette is gone.

High above the clouds, a greedy Scab clutches



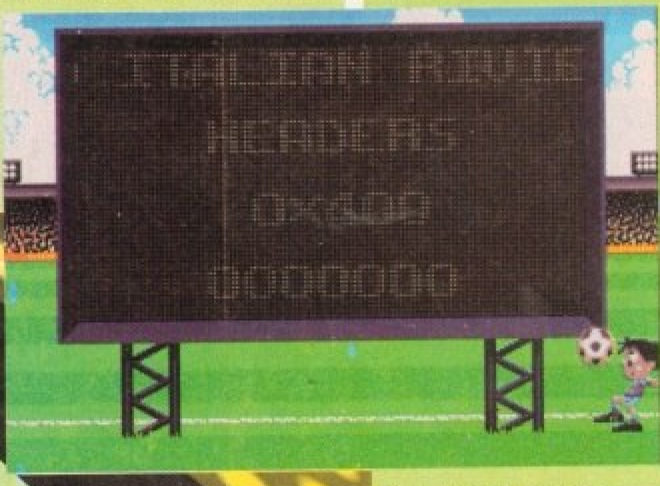
Our hero begins his quest and heads for the Smoke. The only way to get a taxi is by jumping on the damn thing



Sightseeing around some Roman ruins in Italy. Only by using your ball skill will you stand a ghost of a chance



Bouncing along on the bullet train, but beware of the pylons – they'll give you hell when you're older



Let's have a look at the scores on the doors



Here we are in the wilds of the Slav forests. Oy, Ivan! On yer 'eadski



The Kid chills in the serene tranquillity of the Bounty advert. Staring up into a burning sunset he's compelled to sing... Ooh, I've got a lovely bunch of coconuts

the Cup with a sweaty tentacle. But during a momentary lapse of concentration he manages to collide with an asteroid.

This sends the Cup spinning back to Earth, but unfortunately it's shattered into five pieces, each segment landing in a different continent.

Watching avidly on his TV set, Soccer Kid is mortified at the ensuing events and sets off to find the broken pieces and return them, and thus save the day.

Now all that must have seemed a really huge build up, but the fact is this product is worth it. Yes indeedy, Krisalis have really done something this time.

Normally one would follow some kind of formula before passing judgement on a piece of software. Not in this case though because it has to be said now – Soccer Kid is awesome.

After a nice introduction it's straight to the menu. Here there's a really nice touch because you can choose the kit in which you embark on your world trip.

It makes sense – choose the Arsenal kit and take on the mantle of Tony "ee-oor" Adams and you'll get nowhere. Alternatively, slip into a silky Villa (ahem) kit and romp through the levels.

Object of the game is to guide our hero (who's like a cross between Sport Billy, Marine Boy and the Coca-Cola kid) through levels to find soccer cards. Collect all the cards and you qualify for a bonus screen in which a piece of the trophy lurks.

UNIQUE

This in a lot of ways sounds like oh, so many console-esque platforms romps and I would need a good sharp kick up my split casey if I drew such a cruel comparison. The main reason for this is that the Kid is undoubtedly unique.

In most titles of this genre it's a simple case of guiding your hero from A to B, jumping and bashing. In Soccer Kid, success depends on how you use the Kid's ball skill. Killing baddies or reaching ledges can often be down to utilising one of the many tricks our miniature Maradonna is capable of. It's for this reason that the Kid is so special.

Some of the tricks need you to be fairly dextrous and take some learning. This makes SK really addictive – believe me it's highly pleasurable when you pull off a bike kick or a flashy back heel.

Once you've grasped some of the tricks (and there is a tutorial mode to help you) it's off on a saga of soccer-skilled action. Each of the levels is different and there being 28 in total, it's quite a handful.

These change as you travel from your native England down through Italy over to Russia into Japan finally tricking your way through the States ending up at the Final.

The backdrops are beautifully drawn and the screen scrolling is a veritable parallaxing paradise. You can tell that a large amount of time and thought has been taken, paying attention to detail and this really comes across in the standard of the graphics. Whether you're back-heeling in a Baltic battleship or volleying in Venice, everything's well on the ball.

There is also plenty of humour involved in matters as well. Some of the baddies like Gareth the rugby player or the Italian opera singer Paverelli are very silly indeed.

Also, there are loads of secret levels and pick ups like speedy boots to be found in chests which are littered throughout the levels. There are too card and trick bonuses to get your header around.

In the sound department, everything is absolutely Wembley as well. The tunes are beefy and vary through the different stages and for once you're not reaching for the volume knob to sack some cheesy tune.

Overall, the boy with the ball skill is going to score a triple hat-trick in the popularity stakes. He's awesomely animated, extremely playable and highly addictive.

So, with seconds remaining on the clock, its Soccer Kid 10, other games of its ilk 0. The crowd are gonna love this flashy little Pele fellah. He oozes talent and personality, and I can see in years to come a career in TV doing holiday shows just like the loveable Mr Lineacre. Honestly footy fans, Soccer Kid's gonna have you doing keep-ups well into extra time. It's a winner.

SIMON CLAYS

VISION 9/10

AUDIO 8/10

DIFFICULTY 9/10

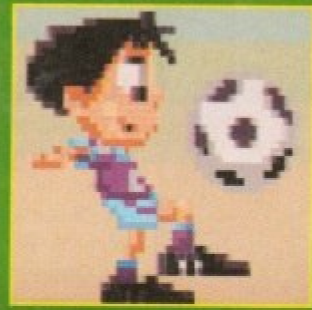
LASTABILITY 9/10

94%

Soccer Kid is absolutely excellent. Highly playable, highly addictive, brilliantly presented and an all round bike-kick, on the volley from outside the area which whistles into the back of the net...

Publisher ➤	Krisalis
Developer ➤	In house
Disks ➤	4
Price ➤	£29.99
HD Install ➤	No
Size ➤	1 Mb

What about this for a bag of tricks?



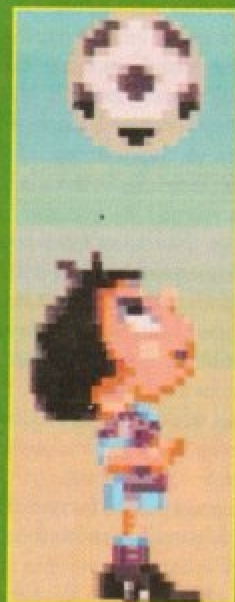
Soccer Kid can beat anyone at keep-ups, even Mr skilful Vinnie Jones



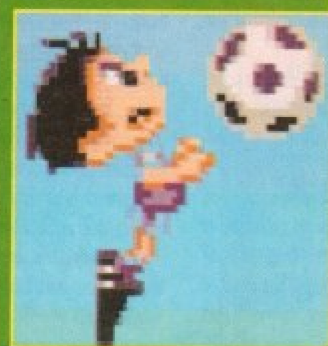
What balance, the Kid can move left or right on the ball. Billy Smart beware



Soccer Kid reaches the parts other infants can't. Jumping off the ball gives our hero more bounce to the ounce



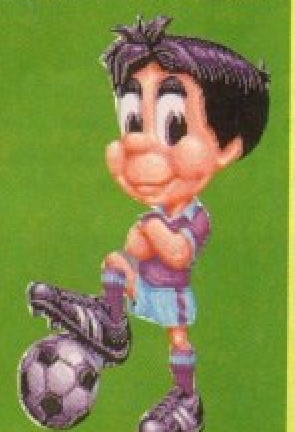
On me 'ead mate. The Kid can't half use his noggin



Give him a bit of extra neck snap and the Kid gives it the super header. Wouldn't like a Glasgow kiss off this laddie



If you really want to show off, try and cut the opposition up with the scissor kick





Not wanting to end up like John Barnes, Soccer Kid can tackle



This boy wouldn't be the complete all-rounder without being able to volley

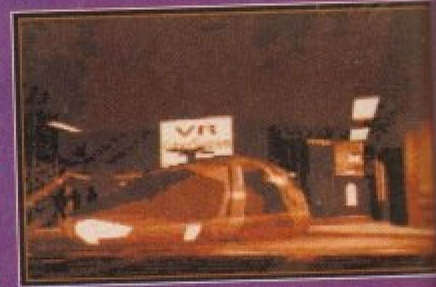


The posse are so pre-occupied that if they're not careful they'll end up under that car. How many times have I told them not to play in the road?

The civilian sideshow



This is Mr Arthur Crockley, of 92, the Willows, Congleton. Innocently setting out on a late night stroll, Mr Crockley could never have known what lay in store for him...



Nice Mr Curtis from No 96 stopped to offer him a lift. "That's very nice," thought Crockley. But unbeknown to him, Mr Curtis had a very different destination in mind

SYND

Yes folks, time to indicate your intention to vindicate yourself with Syndicate. What a load of bullfrog...

Yessssss! It's arrived! Raise the flag, crack open the champers, stick a plum under a viper and rejoice, for Syndicate has finally tumbled gently through the letterbox.

I had begun to think it might just never appear, fading away into the mists of time as one of those games that was supposed to happen but didn't.

But no, I needn't have fretted, because all along it was being nurtured and developed, and at last it has crept onto the shelves of computer game emporiums from here to sunny Slough.

But before we embark upon a fascinating excursion into the dark, dank depths of Peter Molyneux's imagination, let me take you on a reflective stroll down memory lane.

Aeons upon aeons ago, when the world was young and Paul Daniels had hair, Bullfrog released a product unto the masses with the cunning title of Populous. It was a revolutionary concept because it filled a niche in the market and gave birth to the "God game" genre. It was also a damn fine piece of software to boot.

Consequently, Bullfrog established quite a reputation for themselves, and deservedly so because since then every release has been heralded as a classic. Syndicate looks set to follow suit.

It's set in the future. But it's not a happy, flowery type of future. You won't find communities rallying together in a soap-opera-type way here, by Jove.

I mean, let's face it, you couldn't make a very good computer game out of someone going around being nice to people, cutting their lawns, washing their cars and buying them nice presents, could you?

Of course not, and the blokes at Bullfrog know that. So instead, they've opted for a slightly different picture of what awaits us in the near future.

You know how some people think the future will be really crap? Whoever wrote Blade Runner obviously did, painting a picture of a society in which everyone is out for themselves and people like Marcus Tandy are seen as ideal role models (oh, how I miss those frequent forays into the events in Los Barcos...).

Well that's the image of the future that Bullfrog have, and that's the future in which Syndicate is set.

Apparently, the world is controlled by vast multinational corporations. The other major development is the invention of the CHIP by some boffin. Inserted in the neck, the CHIP is the ultimate drug, cutting the users off from the real world. I suppose today's equivalent is simply getting "out of your tree" and listening to The Orb (or so Simon assures me).

Anyway, this development enabled the syndicates to move in and basically control the people through suggestions via the CHIP.

URBAN SPRAWLS

The syndicates are now warring with one another, using cyborgs to do the dirty work. As a young chappie working for one such syndicate, you control a group of cyborgs, and you've got to carry out a number of missions set in the massive urban sprawls of the future.

However, before you dart into the bathroom to top yourself with a razor blade, let me tell you that Syndicate is a very absorbing and interesting game. In fact, I might go so far as to say it could become a classic.

The brilliantly atmospheric movie-like intro sequence does a marvellous job of setting the scene.

You really feel as though you've been catapulted into the dreary streets of tomorrow, especially since at regular intervals between the missions you're shown more groovy animations.

Your ultimate goal is to take over the world, but obviously you're not going to achieve this all in one go. You must be systematic and take things one step at a time.

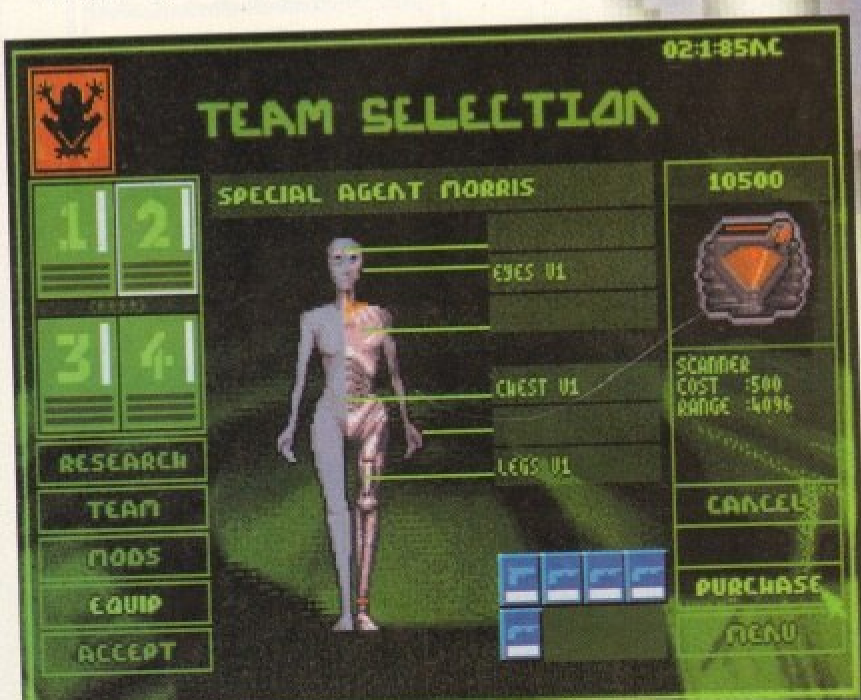
First things first; you can customise your Syndicate by selecting a logo design and colour, and by naming it too. Then you'll be presented with a map screen, and starting from your one lone sector you can move into adjacent sectors and conquer them by completing a mission.

The gameplay consists of using the mouse to shift your lads around, and opening fire at regular intervals by way of pressing the right mouse button.

The interface is simple enough to



Like a disease, your corporation spreads from Europe into Asia and Africa



Special agent Morris is kitted out for the impending mission

offer
Curtis
nd



"Just stand here and hold this hula hoop," Mr Curtis had said. Mr Crockley didn't know why all those lights were flashing and why he had suddenly lost all feeling in his left leg



Blissfully unaware that those funny little notions he kept getting were thanks to Mr Curtis and his strange friends in high places

...ICATE

understand. In a few short minutes you'll be cavorting around the cities of tomorrow opening fire on many an innocent passer-by.

You can select one of the four agents you control simply by clicking on one of the four numbered boxes in the top left-hand corner of the screen. You can also choose to move all the agents together by clicking on an icon depicting four little stick men.

Each agent can carry eight items, be they guns, scanners, or other special devices. When you've selected an agent you can then select the item you want them to use.

If you select a gun and then use up all the ammunition in the heat of battle, the computer will cleverly switch to a weapon with ammo in it, allowing you to get on with the task in hand, namely that of wasting people.

Some of the missions involve you traipsing around searching out scientists and "persuading" them to join your cause with the help of a Persuadertron gun.

Others involve you being accosted by copious numbers of enemy operatives, and your task is simply to explain to them the folly of their ways, with the aid of an Uzi sub-machine gun. If at all possible you should try and avoid robbing helpless civilians of their lives.

If you spot any cars, you can either pump them full of lead or leap into them. You can have great fun cruising around the town, opening fire on anybody and everybody who just happens to be nearby.

On some missions you can also hitch a ride on trains, which are fortunately far more punctual than BR ones and won't be cancelled due to leaves (or dead bodies) on the line.

The graphics throughout are varied and somewhat tasty, being of the variety that'll make you leap up and down in glee whenever you come across a new type of building or feature.

The sound also helps conjure up the image of a sad, grey future, and the gun effects are certainly beefy enough.

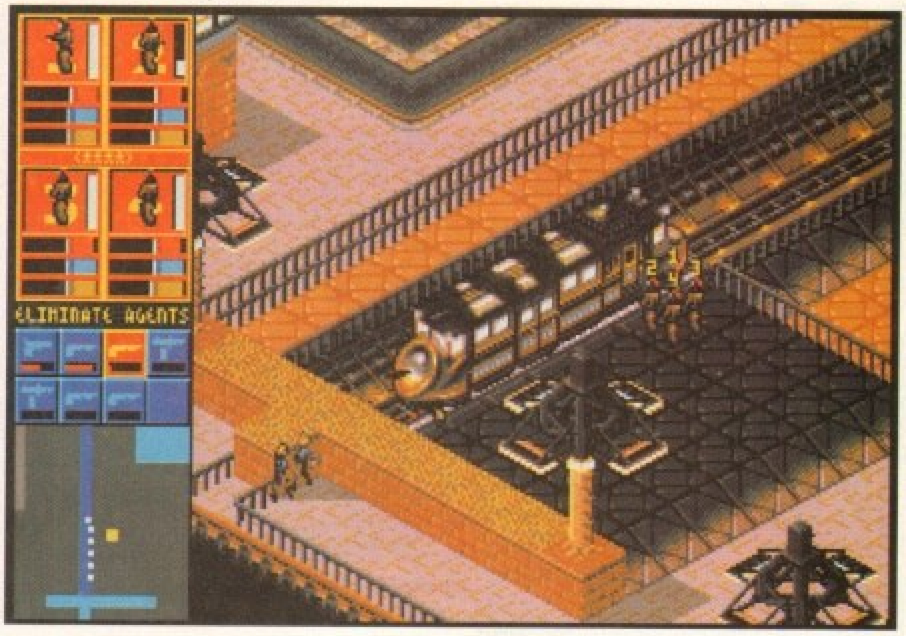
The way in which everyone else goes about their business until you do something against them adds considerably to the gameplay, because you feel like you really are just a small part of a living city.

Between missions you can invest in research into new weapons. You can also choose different cyborgs for the missions from your stocks. Weapons and equipment can be bought and taxes on provinces you rule can be adjusted to increase the amount of cash in your reserves.

There's bags of depth, with so many provinces to take over. Each mission is subtly different to the previous one, so you won't get bored quickly.

This is one of the best games released for ages, and it deserves a lot of success. Another classic from the boys at Bullfrog who, it seems, can do no wrong.

DAVE CUSICK



Hey, look, it's a train! Syndicate is full of interesting graphical touches

GAMER GOLD

VISION 9/10
AUDIO 7/10
DIFFICULTY 8/10
LASTABILITY 8/10

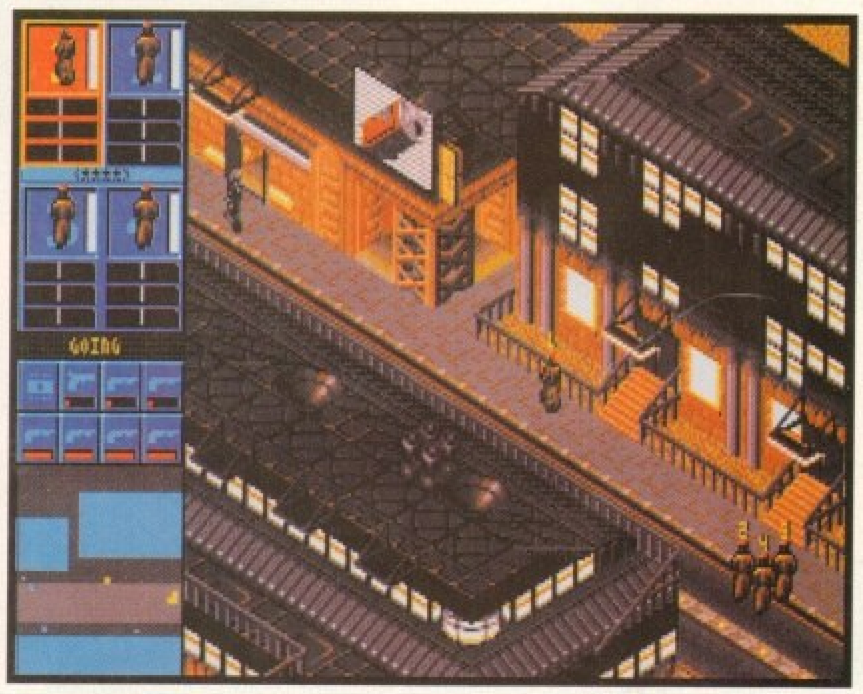
92%

A modern masterpiece. The self-respecting gamer should ensure they have Syndicate nestling snugly on the games shelf as soon as possible.

Publisher ➤	Electronic Arts
Developer ➤	Bullfrog
Disks ➤	4
Price ➤	£34.99
HD Install ➤	Yes
Size ➤	1 Mb



There's nothing like murdering innocent passers-by relieve the tension after a hard day at the office



The whole of Syndicate is very Bladerunner inspired – notice the advertising hoarding

When I was told to expect a little French number to turn up on my desk in the very near future, to say I was excited was an understatement.

Visions of a Brigette Bardot or Vanessa Paradis lookalike whispering continental sweet nothings into my love-struck earlobe filled my foolish head. Jumping to all the wrong conclusions, I decided to prepare for my Gaulic guest.

Three hours later I had totally revised my mangled French textbook from school, sung and memorised the entire Charles Asnevoir collection, watched Gigi four times and totally forgiven a nation of irate farmers and lorry drivers for all sins against my native turf.

Well reader, can you guess my reaction when my European guest finally arrived? No, it wasn't a tall, leggy Nicole from the car adverts lookalike.

Instead, it was an extremely short, purple cardboard box emblazoned in French and containing Microids' latest platformer Nicky 2. Bah, foiled again in my quest to aid the ailing Maastricht treaty and help unite Europe (well bits of it).



Guide Nicky through the caves while keeping an eye out for hidden back passages. Ooh! the "bear" cheek of it



Grab hold of goosey goosey gander to reach higher plains. Nicky mounts up in a classic birds and bees scandal

NICKY II

Bonjour. After some time away, the onion wielding, garlic-powered super 'ero is back – but, it's the same mixture as before



I don't know if any of you out there remember the first foray into the trials and tribulations of Nicky – if not I shall enlighten you.

Back in February this year the French software house brought you the first chapter in the young Parisian's adventures, in which the onion-breathed mite fought against the powers of a nasty witch to save his beleaguered grandad.

Well, after all the effort remedying that situation, it seems that all is still not well in the forest. It appears that the evil witch has a sister up to no good in the wood. The cruel heartless hag is using her dark powers to cause mayhem.

Evil monsters roam around the fairy glen terrifying the inhabitants, roads and paths are cut off by forcefields and ladders through the undergrowth have been blocked.

To make matters worse, someone has scattered Nicky's toys all over the place. The basic plot is to overcome all the obstacles, rid the enchanted forest of the nasties and defeat the bitch witch. Hmm, nothing new there, in fact this plot's more cheesy than a kilo of Brie on a sunny day.

Fortunately, Nicky, or to call him by his full name Nicky Boom, is aided in his quest by a magic goose who gaggles by from time to time.

Nicky's adventuring is spread around four different graphical worlds. These alter between forest, jungle, volcano and cloud levels.

Lurking within these rather large graphical lands are plenty of tasks for petit Nicky to accomplish. For one, there are a host of nasties to contend with.

These change from level to level, but don't be surprised if you are attacked by an enraged mushroom, swarmed at by psychopathic bees or overcome by marauding slugs and teddies.

The puzzle element for our garlic-coated garçon arises when he must find the vast amount of secret passages and ladders which are littered around the lands.

Revealing ladders is accomplished by making the froggy one jump and smash his bonce into different areas of the landscape. Secret passages can be uncovered by shooting balls from Nicky's Chanel-smelling fingers at various pieces of wall.

Also sewn delicately into the plot are such items as magic mirrors and logs which all have an effect on our EEC-sized person. However, perhaps Nicky's greatest ally is the goose, who comes in extremely handy for negotiating Nicky through levels quickly. The only problem is that it is somewhat temperamental.



Stuck in a tunnel and surrounded by nasty, toxic mushrooms... or am I seeing things?

It has to be said that Nicky 2 comes pretty much into the cutesy platform genre. This I find immediately distressing especially as for some reason I find that I quite like the game.

I have to confess that there's something extremely bizarre and silly that appealed to me about guiding a French kid around on a flying goose.

However, the graphics are nothing to write home about, in fact all of the animation really is rather bog standard. The sound is only average in its ability to soothe sonically sore ears, although there are a few quite neat sampled "Yippee"s littered throughout.

It has to be said that our friend from the other side of the Channel really is nothing new at all. It's a recipe that has been mixed up and cooked with far superior results than Nicky 2 manages many times before.

Really, this one's only going to appeal to absolute platform freaks. The rest of you are going to give old Nicky a gentle shove off the Eiffel Tower while exclaiming "Au revoir, you petit minkee!" in a Peter Sellers-type Clouseau voice.

SIMON CLAYS

VISION

AUDIO

DIFFICULTY

LASTABILITY

Listen, I shall say this only once. Nicky 2 is going to be nothing fresh to eyes that have gazed upon a million of the same type of affair. A bit of an escargo.

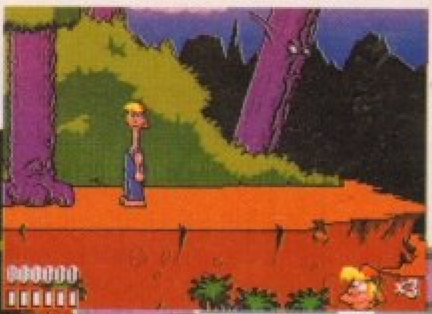
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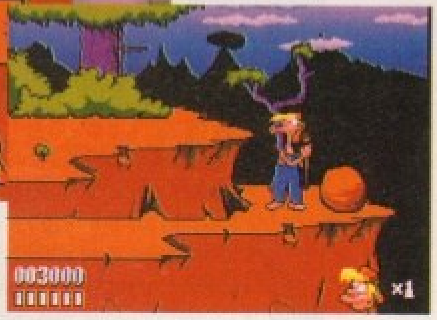
Publisher	Daze
Developer	Microids
Disks	1
Price	£25.99
HD Install	No
Size	½ meg

ON THE Drawingboard 1









Bubba faces many enemies throughout the planet which include gabbing aliens, sneaky trees and bothersome rocks.

BUBBA 'N' STIX

Yes, it's another horizontally-scrolling puzzle arcade adventure, but this one could be a contender for Game of the Year. Stick around while Jonathan Maddock checks and inspects...

If there was an awards ceremony held right at this minute then the award for Most Underrated Games House must go to Core Design. Heimdall, Wolfchild, Jaguar XJ220, Chuck Rocks 1 and 2, Curse of Enchantia and Thunderhawk have all been truly great games.

The standard of graphics, sound, playability and addiction is very high indeed and the most surprising thing is that the standard stays the same game after game – in fact it rises with each product, if anything.

If Core had the same amount of money and power that Ocean or US Gold have then I'm quite sure that they would be the number one software company for Amiga games.

That wouldn't be the end of the prize-giving though, because Core would also walk away with the Not Brought Out Any Games For Bloody Ages And Ages Award. The last game that they produced for the Amiga was Chuck Rock 2 and that was way back in May.

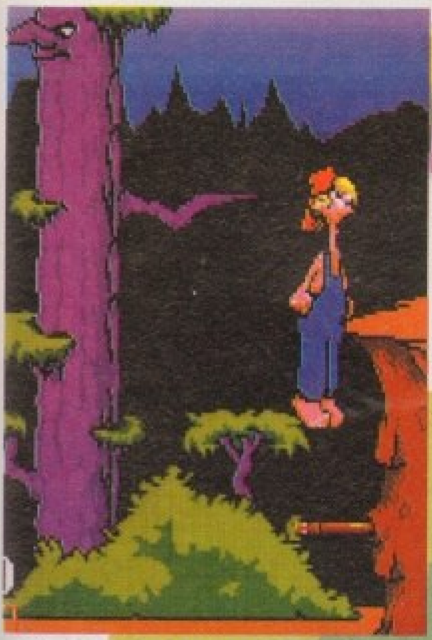
Fear not, ardent gamesplayers, because Core have been planning and scheming. They have got a whole truckload of devastating software scheduled for release and it is some of the best and well produced stuff I have seen in quite a while.

By Christmas time you can fully expect the charts to be absolutely riddled with Core Design products.

One of the first to arrive on your doorstep is Bubba 'n' Stix. It's a horizontally-scrolling puzzle arcade adventure. Now don't tut, I know it sounds like every other two-bit horizontally scrolling puzzle arcade adventure, but this ones looks as sexy as Sharon Stone spaghetti hoops on toast.

Bubba is the hero and is a rather ordinary blonde-haired delivery man with who is eloquently attired in a delightful red cap, a pair of blue denim dungarees and not much else by the looks of things.

His most recent delivery is a shipment of animals to the local zoo. As so often happens, an alien ship, on the look-out for alien species itself, descends from the skies and kidnaps Bubba, his lorry and its contents.



Bubba's friend Stix can be used to solve many tasks and puzzles. Here he is used as a springboard...

ALIEN

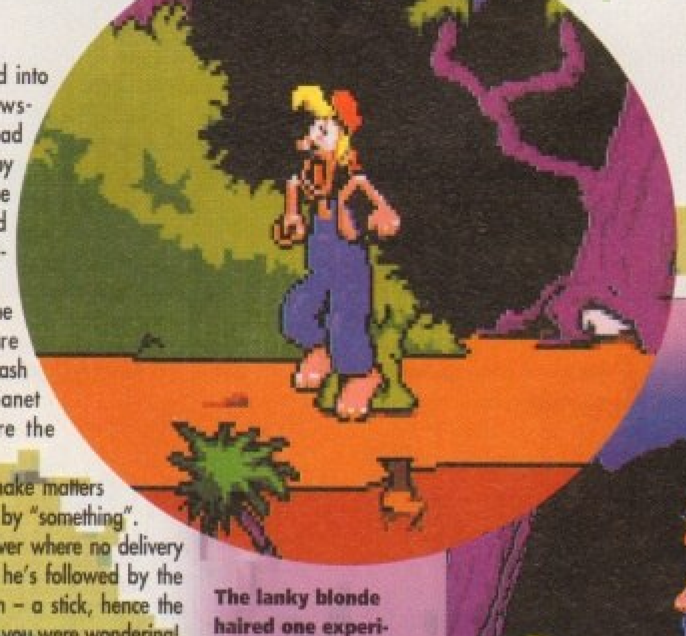
The craft zooms off and into space heading who-knows-where. The alien driving had obviously been on the happy juice because he starts to lose control of his vehicle and unfortunately its doors suddenly burst open.

Bubba, along with all the other collected aliens, are thrown from the craft and crash land onto a mysterious planet below, and this is where the adventure begins.

As Bubba recovers, to make matters worse he is hit on the head by "something". And as he heads off to deliver where no delivery man has delivered before, he's followed by the creature that landed on him – a stick, hence the title of the game, just in case you were wondering!

Well, could've been a worse "something". There isn't a lot you can do with a pot of lard for instance, but a stick can perform a whole host of tasks. This is one of the main parts of the game – the relationship between Bubba and his stick, or Stix as we hip cool cats from the games industry like to call it.

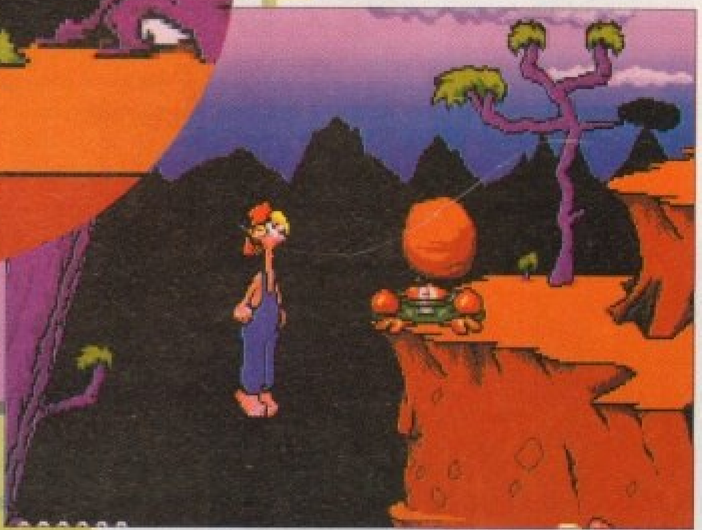
Bubba's objective is to get back to earth quick smart, but he has the ever helpful Stix to help him. The dopey-looking delivery man can use Stix as a lever, a snooker cue, a tightrope balance, a javelin, a baseball bat, and a platform, and more importantly he can beat enemies over the head with it. The player is actually made to use the stick to solve the many puzzles that face Bubba, thus creating the puzzle element. Throughout the game, Bubba faces many puzzles and adversaries, the chief one being the sheer comedy attempts of his kidnapper to recapture him. As you progress through the game, the difficulty and complexity of the puzzles steadily increase.



The lanky blonde haired one experiences some pain from a viscous bush. I bet no-one on Gardeners World had this kind of trouble!

The graphics in Bubba 'n' Stix are almost cartoon-like and there are more frames of animations for the characters than you can shake – ahem – a stick at. Levels include an alien forest, a derelict starship, a swamp, a power plant, down a sewer and finally inside the planet's alien zoo!

This is just the beginning for Core Design because they're bad, they're back and they're out to claim the award for Top Software Company of the Year. "Stick" around and watch out for Bubba 'n' Stix because it's going to be absolutely massive.



The kidnapper gets his just desserts with a little help from a two-ton piece solid of rock. Ouch!

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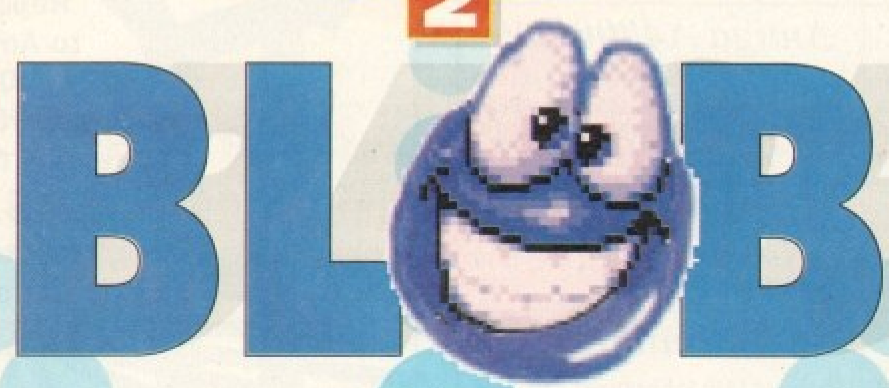
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ON THE Drawingboard 2

BLOB



Blob is set to bring us the prospect of journeying to a parallel dimension, Simon Clays bouncily goes where no-one has bounced before...

There can't be many among us who, after a heavy night, haven't stumbled mysteriously into the back garden to gaze at the starry void – if it's not overcast or throwing it down.

Many times I've stared into space, questioning the quasars, negotiating the nebulas, on a cosmic quest for understanding. Asking those fundamental questions that have evaded terrestrial man since the dawn of existence.

Stretching my aching brain to comprehend the spatial position of my atoms and above all, what else lies out there in the depths of our universe?

Conversely, have you ever found yourself examining the conundrum of what dwells deep inside, erm, the parallel dimensions or unimaginable reaches of the anti-matter galaxy?

As usual, my deep space-fried brain would become a veritable black hole and the issues that troubled me so intensely would remain mysteries – and they probably will for at least the remainder of my natural life. I know, heavy stuff readers, but hey we've all been there.

So, imagine my surprise when a preview beats its interstellar wings towards my desk claiming to contain a character from some far-flung alternative dimension.

Imagine my confusion when I find this alien type entity is called Blob. Now, I don't know how many of you are 70s children, but as far as I remember a Blob was a hard-boiled sweet. These came in a number of surreal flavours like cola and peanut or raspberry and Silk Cut.

Anyway getting back to an alternative reality, Blob is a spherical life form who spends his existence bouncing around a world, neigh universe, where success in the physical realms results in a bouncy nirvana of spiritual paradise in the after-life.

What all this will mean to the uninitiated inhabitants of the world of Blob is 50 levels of puzzle-based vertical platform action.

Having seen a very early uncompleted version of the blobby one I have to say it looks like nothing I've come across on the Amiga before.

It's graphical style and presentation to all intents and purposes is unique. Rather than the bog standard left to right, up down approach we all know better than the route to the local, Core design have opted for a fresh angle.



Blob is viewed in a form of 3D, with the play either coming at your screen or dropping away from it. At first glance it doesn't look much, but as they say, don't judge a book by its cover.

The basic object is to guide your blue globular guy through a series of tiles above and below him until he reaches the relevant exit. This is achieved by utilising blob's outstanding talent – bouncing.

Play consists of three different goals to get the ball-shaped one into the back of – metaphorically speaking. First is the aforementioned "reach the exit" scenario, collecting a certain quantity of spods(?) and a number of bonus-type points for prizes stages.

The puzzle aspect of Blob centres around different styles of tile. Different tiles have varying effects on Blob's fortune. For example, there are such things as squares which give Blob extra bounce to the ounce. Conversely, there are also glue tiles which reduce the elastic energies of the rotund one.

As always there are a number of pitfalls within the daily life of Blob. For one if he drops too far off a ledge he will lose energy and be in dire need of a couple of paracetamol. Also, one slip of your nimble fingers on the joystick and the poor circular one falls into the depths of vacuous space.

To make a disc-shaped existence an even more perilous pastime, there are also a number other things to avoid. These comprise of a right set of nasties which do their best to hamper our orb-shaped hero.

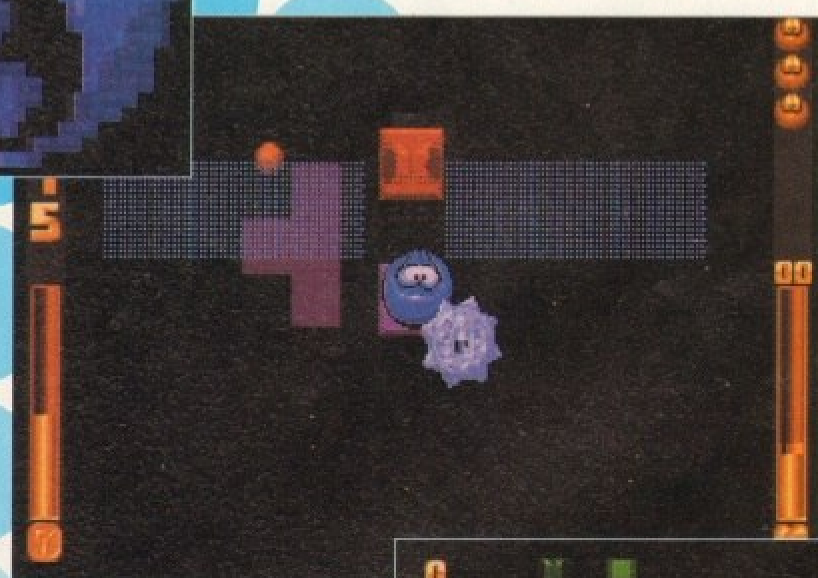
Included in this bunch will be spinner balls who chase Blob around the place, bouncers who attempt to push him off the tiles into the nether world of non-grav space and flat discs called slicers with razor sharp edges which will quite happily dissect Blob. Also featured is the Glob, a rather evil alien fellah who is relentless in his quest to hurt the flumpy-looking one.

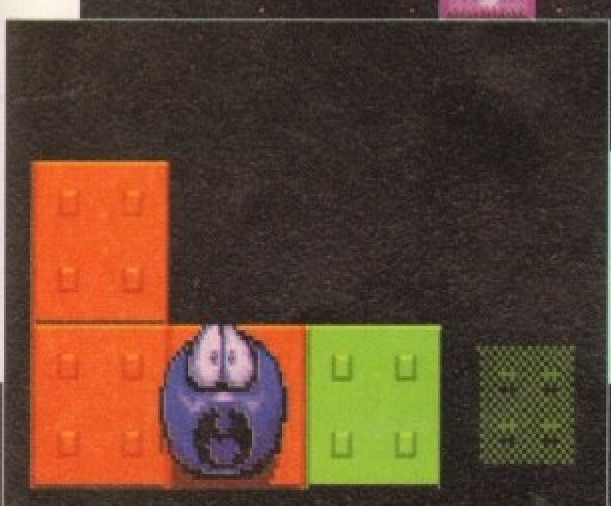
All in all the Blobby one looks set to become a rather interesting addictive new angle on a rather tired, somewhat perplexed, puzzle genre. So if you're a platform, conundrum solving freak, get ready to expand your mind in the alternative tangent of Blob.

Bounce Blob across the tiles and pick up points on bonus squares



How'd you like your Blob, sliced or boiled?





Ooooh, missus! Blob catches his piles on the tiles

Help Blob on his extra-terrestrial quest up and down the tiles to reach the exit





Judging from those feet, blob is in dire need of sensible footwear. I suggest a pair of Clarkes Commandos, complete with free badge



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ON THE Drawingboard 3

With Tom Cruise being offered $7 million for Top Gun II, Simon Clays decides it's time to sneak up on the Stealth fighter

F117A STEALTH FIGHTER

Seven million dollars for a little American bloke who's never been near a jet, I can't believe it. Here I am about to risk life and limb in a Stealth fighter for a pittance of a salary, I really can't believe it.

To earn Mr Cruise's salary I've got to fly three million flight sims. Not really on, is it? Anyway, enough of my fruitless cries for financial salvation, on with the show.

I would be highly surprised if there are any of you out there in gamer land who weren't around during the Gulf war. Well at least I think it was a war, you see you can never be sure.

Let's take the Falklands for example; when it broke out it was war, when the British government got the upper hand it became a conflict, and by the time they were mopping the blood up in Goose Green it had become a playground Argie–bargy between little Johnny Bulldog and the Fray Bentos Three.

Anyway before I digress any further into the murky world of political intrigue, let's tread a rather oily path back to the Gulf.

During the campaign to liberate Kuwait, one aircraft dominated the news more than any other – the Stealth Fighter. Shrouded in mystery and swathed in secrecy by the Pentagon, the F117 proved its worth ten-fold. Looking like a hybrid Airfix kit or an extra from Thunderbirds, Stealth contained technology that pilots could only dream of.

SNEAKY INSIGHT

However, previous to its unveiling in a warring capacity the kings of the simulated world, MicroProse, gave us a sneaky insight into the Stealthy one. How they managed to bring us F19 is information the likes of us mere mortals will never be privy to.

Was it a Pentagon leak? A MicroProse agent stealing a Stealth in a Clint Eastwood, Firefox type fashion? or was it just pure guesswork?

Probably the latter, but it makes for quite glamorous text. No? Anyway, F19 – despite its fictious numbering – became the definitive flight sim on the Amiga. Combining slick graphics with features never before seen in a simulator, Lockheed's flagship paved the way.

Now three years since the award winner's release, MicroProse are coming back to push the barriers higher into the octane-filled skies. The first and most obvious improvement will be in the speed and look of F117.

Having had a sneaky preview I can tell you with some confidence that things are looking good. The terrain will have much more detail than previously seen.

Featured within this environment will be towns, airbases, depots and all the other enemy hideaways necessary to capture the feel (plus giving you loads of things to blow up).

Also, the plane that all the rich kids want will have undergone some minor plastic surgery. For one it's changed shape slightly, but you'd expect that as more info has been sucked out of the US military regarding Stealth's specification.

Graphically from what I've seen so far, Stealth's a lot better defined and much smoother in the animation department. It also features a more realistic internal layout and cockpit display utilising all the up to the minute, state-of-the-art arms and defence technology available. So, all you fans of realism in sims can start getting hot under your flying jackets because there's more keys to deal with than a Turkish prison warden.

MicroProse are also promising enhanced night flying, sprite missile explosions and smoking debris to add even more realism. Couple this up with external views and all the action replays a budding aeronaut can take in through his steamy goggles and you've got a rather awesome prospect looming. As if that isn't enough, the parameters of the scenarios are to be broadened. In the original F19, pilots could crash through the sound barrier in six different theatres.

In F117, MicroProse are promising improved versions of the existing zones plus three all-new environments to waggle your wing-tips around in. These will be in three notorious world hotspots; North Korea, Cuba and the latest and greatest threat to world peace, Iraq.

As an added bonus, there is the promise of supplementary disks which will give players the ability to flit around in future worlds.

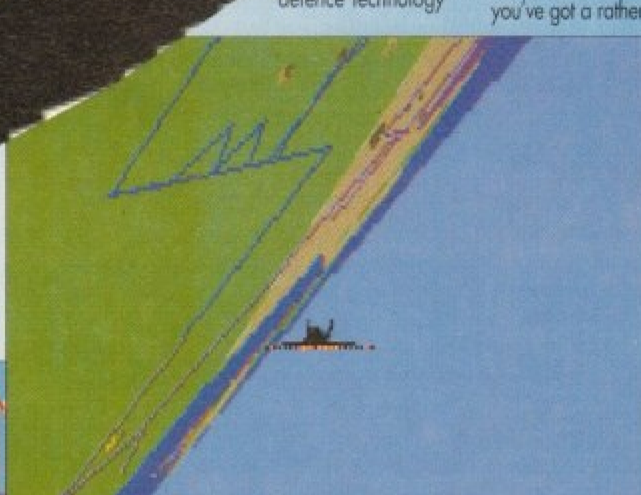
If that isn't enough, also anticipated is an improved mission-generating system which should stretch the most toppest of top guns. Also expected are beefed up anti–glasnost computer pilots who are apparently salivating profusely at the prospect of blasting capitalist, imperialist Western piggies into the stratosphere.

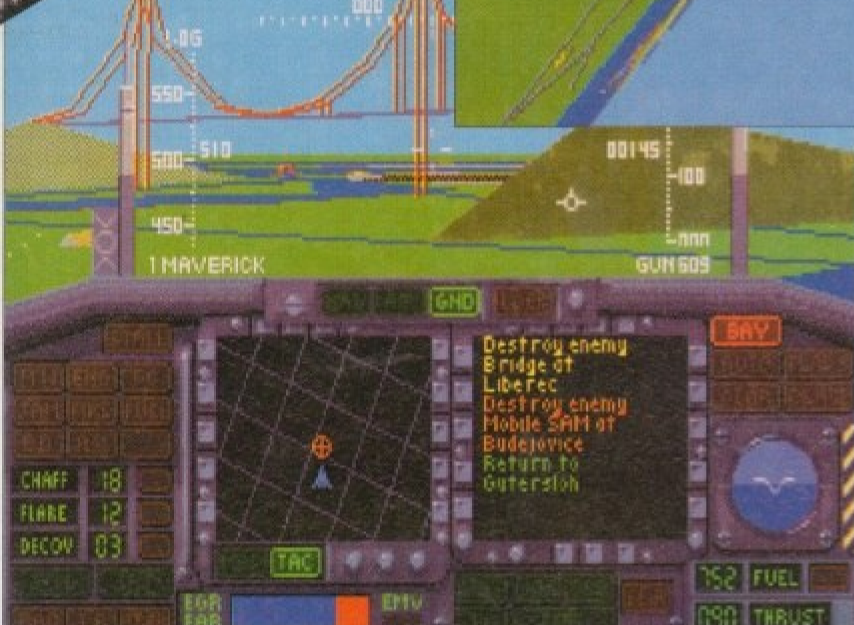
Well, it sounds enough to get your Fire button trembling and from what I've seen it certainly looks as though it should be another winner.

Being a MicroProse product, comparisons will obviously be drawn with their present barnstormer Gunship 2000. If Stealth plays and looks as hot as the preview, then I could finally be tempted to put my rotors away and using extreme stealth expose myself to the cold night's air.



Ohh, blaah! I think last night's lasagne's coming up all over my HUD





Relax in the splendour of the new enhanced cockpit and H.U.D.

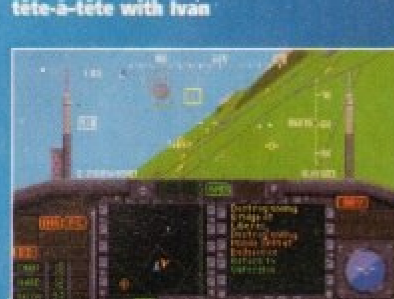
The Gamer preview to being a stealthy Top Gun and earning $7 million



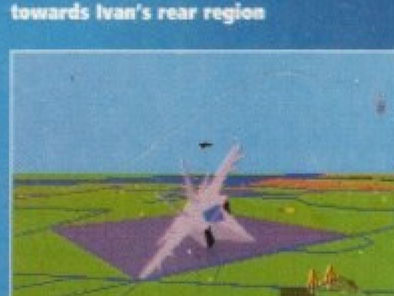
STEP 1. Fly over an enemy base and stick your tongue out at the toughest looking one. Here we see a very tough Ivan about to scramble



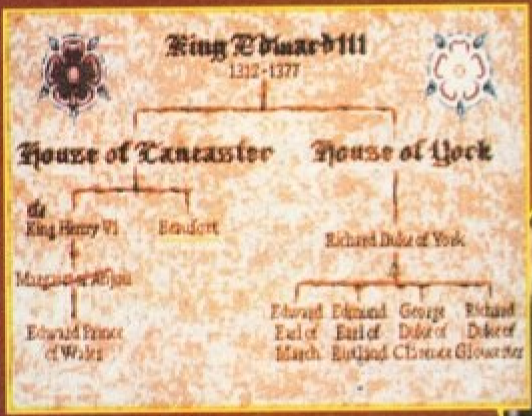
STEP 2. Start singing "You've lost that lovin' feeling" as you engage in the first tête-à-tête with Ivan



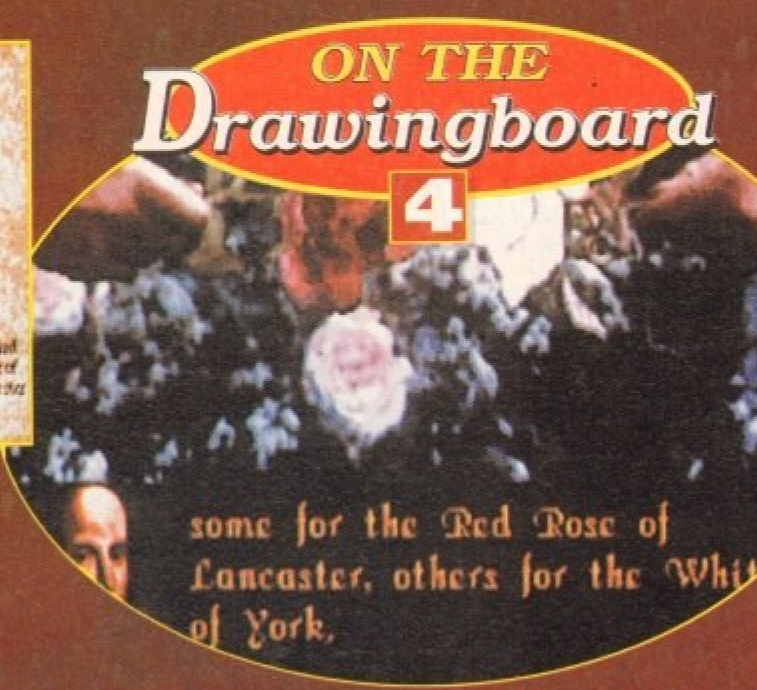
STEP3. You're on his six. Think of Kelly Magillis as you fire something sharp towards Ivan's rear region



STEP 4. Ivan lays Russian housebricks as your sidewinder snakes towards his fuselage. Time to go home, have your breath taken away, marry Kelly, have two kids and buy a Vauxhall



The family tree shows the status of each of the Royal pieces. As you can see, Henry the VI is King. Hey, who said games weren't educational?





Oh dear, a plague has broken out in Nottingham. Yes, well I'll really miss going there then. Sigh.

KINGMAKER

Monopoly? Neh. Scrabble? Ptooey. Trivial Pursuit? Sigh. Kingmaker? Cheer! Jonathan Maddock looks on as US Gold convert the '74 classic to the small screen.

US Gold had phoned up and invited Gamer down to their Birmingham offices to take a sneaky peek at their latest piece of software called Kingmaker. This was the only title mentioned in the telephone conversation and it never dawned on me to ask what type of game it was. Oh well, ho hum.

Being a fan of indie music I was rather hoping it was about the band Kingmaker. Oh yes it could well have been an arcade adventure of epic proportions featuring one of the hardest working bands on the road.

Yeah, perhaps I could've had a few freebies – even better, the band could be there playing a short set. Alas it was not to be, my imagination had run away with me once more.

Kingmaker is, in fact, a strategy board game that apparently has sold hundreds of thousands of copies since it was released in 1974. Blimey, that was a full year before I was even born and I can put my hand on my heart and say that I have never heard of Kingmaker (the board game, not the band!).

I also asked several other people if they had happened upon the board game and all I got was much shrugging of shoulders. Nevertheless, US Gold are at this very second busily converting it to run on your wonderful computer.

In the past many software companies have tried their hand at this conversion lark and it hasn't worked. The reason is that the computer version can't be a lot different from the original.

The major plus point is the fact that you can test your skills against the computer, but then again most board games were made for more than one player, so you do lose that human interaction.

Space Crusade, Heroquest and Scrabble have all been board game success stories on computers and US Gold are hoping that Kingmaker is going to do the same.

It is set in the period of British history known as the War of the Roses, where the Lancastrians (represented by a Red Rose) fought against the Yorkists (represented by a White Rose). The objective is to control the last surviving royal piece and so become the undisputed King of England.

MANY FACETS

The player controls a faction of nobles representing historical personalities from 15th Century England. The game accurately reflects the changes in strengths of the factions as they are decimated by battles, plagues and failed ransom attempts or have new honours bestowed on nobles with attached troops and castles. To date, Kingmaker has been in development for over 18 months which for a game of this nature is a long time. It's been programmed by Graham Lilee whose previous projects include Heroes of the Lance and Shadow Sorcerer, with the graphics by Kevin Bulmer who was responsible for the artistic delights seen in Corporation and more recently Legends of Valour.

According to US Gold, it offers an abstract recreation of the chaos, war and intrigue that epitomised the period of the War of the Roses, and hey, if that doesn't sound like an exciting board game, then you can call me Hilda.

Products such as Powermonger, Civilisation and Defender of the Crown have all been chart successes. The weakness in these titles is that their artificial intelligence (AI) is weak and the strategy player loses interest in the products, once they learn the "perfect" strategy. In Kingmaker there is no such thing as a perfect strategy and thus this makes the product ideal for a conversion to the computer.

While we were at US Gold we had the opportunity to play and see both the board game and the computer conversion. In the original you use a set of cards in conjunction with loads of little counters. In the computer version you don't have to bother fiddling with them because it's all done for you.

There are several instances where the computer version makes for a more complete game. For example, let's take a look at the battles between the two rival forces. In the board game, the battles are won and lost on the turn of a card and this type of battle is incorporated in the computer conversion.

There is another way to fight the battles, though, which is to select the Advanced Play option. Then you'll have direct control over your army in battle. This is a brilliant option because you then find the strategy part of the game which could get a bit monotonous spilt up by a great arcade section.

The game is 100 per cent mouse-controlled and uses a completely intuitive icon system that gives the player easy access to all of the game functions. All you historians out there'll be pleased to know that Kingmaker will be accompanied by a 120-page manual featuring a wealth of information on the historical background and analysis of the War of the Roses conflict.

As I've confessed before, I'm not particularly fond of strategy games and I bet other people have the same sort of opinion, but Kingmaker could well change a few minds when it arrives. I can guarantee that strategy fans are going to be in seventh heaven.



After you've survived many setbacks you will emerge as the holder of the last crowned royal piece and therefore be hailed Kingmaker



Wake up... time to die! The troops go into a field battle which can be decided by a turn of a card or by using the more realistic advanced battles



THE GAMER FILES

The first in an occasional series where *Gamer* takes a look at the companies behind the games. Jonathan Maddock asks Who? Where? What? How? and Why?

This month it's the turn of Gametek, a brand new name to the world of Amiga software. *Gamer* interviews Gametek supremo Kelly Sumner and takes a keen look at their releases that will be arriving on your shelves before Christmas.

GAMETEK

The Interview...

Q. *Gametek seems to be a relatively new name to software publishing on the Amiga. Where has it sprung from?*

A. Actually, it's one of the longest established Nintendo publishers in the world and its holding company, Gabco, has been around for 17 years. It started in the sell–through video business and was once the second largest sell–through company in the US, behind Disney.

Q. *So when did the interest in software start?*

A. In about 1987 the firm decided it would be a good idea to get involved with a company called Nintendo and that's when it set up Gametek Inc. At the time consoles weren't anything like the success they are now. Gametek saw the opportunities early and became one of the very first Nintendo licensees.

Q. *So why haven't we heard much about the firm until now?*

A. For a while, I suppose you could say that the operation was quite low key. The firm concentrated on NES products and also published game show licences such as Jeopardy and Wheel of Fortune which, while being huge in America are only successful in a handful of European territories.

Q. *What brought about the shift through the gears that we've witnessed lately?*

A. I think you can trace it directly back to the appointment of a gentleman named Bruce Lowery two years ago. Bruce was one of the founding members of Nintendo of America. He helped set the firm up in Europe and has also had a spell as the president of Sega of America. You could say he's got a pretty good track record.

At about the same time Gametek got a licence to publish Sega product in the US, those two things happening more or less simultaneously awakened the firm to its potential.

Q. *Is that when the thought of branching out into Europe was aired?*

A. More or less, yes. The thinking was that Gametek had to expand pretty rapidly, that meant increasing the number of territories we were represented in and also the number of formats that we published.

As far as the European offices goes, some big US companies seem to still believe that you can control it from across the Pond, you can't. Bruce knew that and that's when he started talking to me about establishing a major European presence.

Q. *At that time you were head of Commodore UK. Moving to an unproven publisher could have seemed to many like a step in the wrong direction. What persuaded you to tackle it?*

A. Gametek isn't just muddling along from product to product. It has a very clear vision of where this market is going and I happen to believe that they are spot on. Gametek of course, has plans to be a very big operation but being in at this stage means that I can directly affect how it gets there. It's also got some products that are going to make my job a lot easier.

On the console side, games like Humans already have a proven track record on home formats and, if anything, are more suited to a console audience. And we're strong on home formats too and don't forget we've got home format rights to all Konami games, things like Batman Returns.

Q. *How are things going now that the UK office is in place?*

A. Very well indeed. As of May we were up and running. We've got Gerry Tucker, who you may remember from Virgin and Acclaim, on board as finance director and Gary Lewis who was with me at Commodore as Sales Director.

Adrian Cale who previously worked at System 3 has taken the position of Marketing Manager. There are still a number of key roles to fill, but we won't rush. We're going to hang on in there until we get the very best personnel possible.

Q. *Will the UK office effectively be the European HQ?*

A. To a certain extent. It will be the hub of the European operation but there will also be offices in Germany and France opened up later in the year because we feel that only local staff can guarantee us the best performances in those territories.

Q. *So when will we see some Gametek product arriving in Europe?*

A. There will be a handful of products released this side of Christmas but they'll make quite an impact. In 1994 we've got some really spectacular stuff.

Q. *What the schedule going to be like on the home computer front?*

A. That's actually very busy. We've got about a dozen titles due in September and October. Obviously our ranks have been swelled by affiliate deals with top names like Konami and Spirit of Discovery.

We've got things like Batman Returns, Bill Elliot's Nascar Racing, American Gladiators and Humans A1200 arriving before Christmas.

Q. *How would you sum up the Gametek product that we're going to see over the next 12 months?*

A. Well, what I wouldn't want to do is try and categorise us. The only factor that determines whether or not we develop or licence a game is quality. That's the only way to secure long term growth and that's what Gametek is interested in.

There's a major shake–up going on in publishing at the moment. With people like Sony joining in, you'd better believe it. Out of the 100 or so publishers around the world now, possibly only 20 will be left in a few years' time.

You'll have to be a major player to survive and I can assure you we intend to do more than just survive. Our quality of product and staff will see to that. At Gametek we don't want to be known as a niche publisher on any particular format or in any particular genre, we're the complete publisher.

Batman Returns...

The biggest game this year, as far as Gametek are concerned, is Batman Returns. The film which starred Michael Keaton (Batman), Danny DeVito (The Penguin) and always and ever-sexy Michelle Pfeiffer (Catwoman) was billed as one of the greatest fantasy adventures to hit the big screen in recent years.

Batman Returns is not going to be like every other two-bit film licence, it's going to grab a pen and rewrite the rules. Most film licences are probably the worst games that your money can buy. The software company simply uses the name and produces a multi-level platform/beat-'em-up/shoot-'em-up romp. To say that these games are dire is the under-statement of all time.

Imagine it as a recipe. Take a cooking pot, add arcade elements, then mix a certain amount of adventure and a mere pinch of logical thinking. Leave it on the hob to boil to a creamy consistency. Now in separate bowl, mix together 3lb of realistic and imaginative graphics, 30 grams of digitised sound effects, two bags of powerful playability and a sprinkling of addiction (powerful stuff that, so go easy).

Whisk together for three minutes until light and frothy and then add to the pot. Leave it to cook for a further 15 mins, transfer into a baking tray and pop into the oven for 45 mins at Gas Mark 4 or the equivalent. Take your finished product out of the oven and you will find Batman Returns by Konami. For decoration add a sprinkling of hundreds and thousands. Er, I think you get what I'm going on about.

Basically, Batman Returns requires a lot more thought than your average game of this genre. The man with pointy ears must analyse evidence, view news broadcasts and investigate databases as well as using his utility belt and fists against the various enemies that are running rampant around Gotham City.

It's going to massive when it arrives in October and from the screenshots you can see that it's looking as sexy as Catwoman's leather pants!



Batman goes to the liquor store. Even superheroes don't turn down a half-price sale!

..the previews...

Bill Elliot's NASCAR racing...

Who is Bill Elliot? Well for all I care he could be a plumber's assistant from Rotherham. He is apparently a NASCAR champion. What's NASCAR? Well, it is a form of car racing from the States like stock racing and if you've ever seen Days of Thunder starring Tom Cruise then you'll know what I'm talking about.

I can't remember what NASCAR stands for, but I could bet my granny's brolly that it's National American Stock Car Automobile Racing and err, I'd probably lose the brolly. Oh dear I'm babbling again.

Ah yes, Bill Elliot as well as being a NASCAR champion helped design his very own racing game. This means you get the thrills and spills of real racing, apparently.

There are eight tracks to race around on which range from the famous Daytona raceway to, err Michigan. You get a choice of three cars (Ford Thunderbird, Chevy Lumina or Pontiac Grand Prix) to zoom about town in. All three are pulsating, throbbing beasts and all have very nice paint jobs to boot.

Bill's Racing will be released in September for the utterly ridiculous price of £24.99 and if you like car sims then put on your hazard warning lights on because this could well tickle your exhaust pipe.



Humans A1200...

First, question time. This is your starter for ten. Which software company was responsible for Humans? Er, umm, Mirage. Oh dear, there goes your prize of a holiday in Jamaica. The correct answer was Gametek.

I know what you're thinking, I've gone wibble again. Yes, I know Mirage brought Humans out on the Amiga, but that's only because Gametek wasn't set up in Europe at that time, so they licensed it out to Mirage.

Humans was welcomed with praise and critical acclaim from the press and public alike. It scored 90 per cent and over in almost every magazine and was even nominated as Game of the Year by BBC TV's Going Live! kids programme.

The idea was simple, all you had to do was experiment and enjoy. It was down to you to keep your Humans tribe alive. By assigning each of them tasks, working them as a team, they would evolve and progress to the next level.

The A1200 version will feature sumptuous graphics and unbelievable sound, but still retain its unique playability and addiction. A1200 owners will be able to dribble at it when it is released in September for a penny short of £30.



The "old" version of Humans and it looks good, but imagine it on the A1200 – it'll be mind-blowing!

American Gladiators...

Forget about those British pansies who call themselves Gladiators because if they ever had a fight with the ones from the USA they would get a severe kicking. I've seen a picture of the American team and they've just got to be dosed up on steroids. I mean they've got muscles on their muscles!

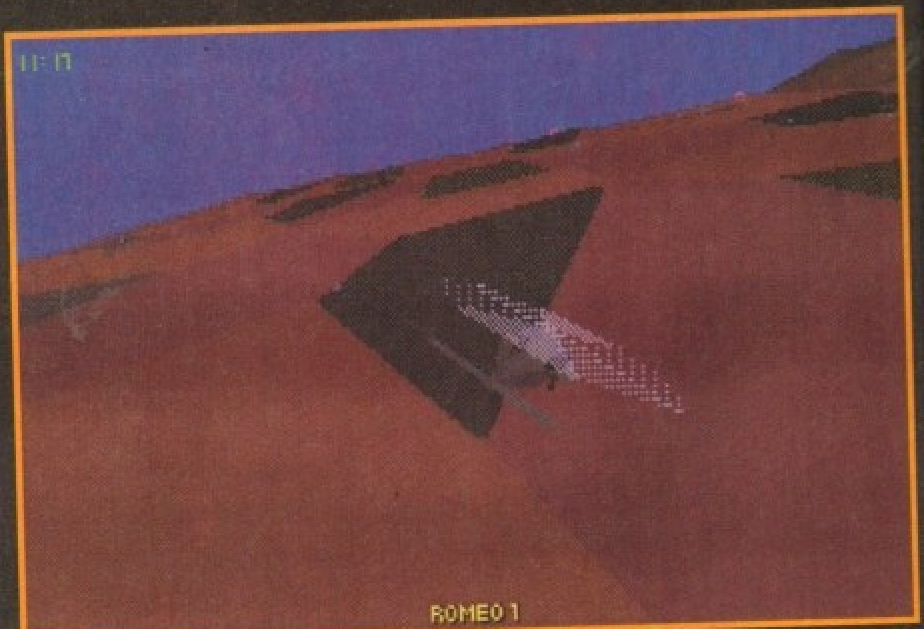
American Gladiators is hugely popular in the States and apparently its ratings are still going through the roof. The game has been selling like hot cakes and now it's coming to Europe.

Many of you won't be familiar with the TV program unless you have a satellite dish. You will know how the program works thanks to the British version presented by Ulrika Jonnson and John Fashanu.

There are a certain number of events in which you the competitor have to battle against the might of the Gladiators. They range from the tough to the even tougher. There is the Joust where you have to knock the Gladiators off a four-foot platform with a seven-foot pugil stick. The Wall is where you have to climb a sheer 30-foot high wall while dealing with a Gladiator who is hot on your heels trying to pull you off.

All the Gladiators have incredibly stupid names like Ice, Nitro and Thunder and you get loads of digitised pictures of the beefy battlers. It will arrive in September at £24.99.

Been struggling to cope with the pressures of flying an ultra-modern combat helicopter? Well now your problems are over! *Gamer* guides you through this 'copter classic



GUNSHIP 2000

Microprose's Gunship 2000 is an excellent game, but it can be more than a little testing for the novice pilot. But help is at hand, as we take you through some of the techniques you'll have to familiarise yourself with if you're to become a helicopter ace.

The first missions you should attempt are those in the Central Europe scenario. The long rivers which are common in these missions are very useful for providing cover from enemy forces.

Learn to fly along just above the rivers, and you should be able to fly between the river banks, actually below the ground level.

In the Europe scenarios, one of your objectives may be to destroy a train transporting military hardware. Always destroy the engine of the train as this will cause the rest of the train to come to a complete halt. There are also tunnels at various points on the railways, which can be used as hideouts from the enemy.

Always set the co-pilot to control the jammers/decoys, because he is quite good at using these and it saves you a lot of work when attacking the enemy.

You should use the zoomed-in map to plan your approach to the primary and secondary targets. When playing at the higher levels you must use the hills almost all of the time to provide yourself with cover from enemy forces. When you have reached the last hill before the target you are in a position to begin your attack.

Whenever the Longbow Apache is available, use it. It is the only chopper that give you long range hellfire weapon systems which are invaluable in the battle field. If it isn't available, the Comanche Stealth is a good alternative.

If you fly this, give your wingmen Apaches, so that when you fly in the mission the enemy will lock onto your wingmen and not you. This gives you the chance to get close to just about any target and destroy it with cannon fire.

If you have to transport, rescue or pick up anything, always double check that you have a Blackhawk in the squadron. There's nothing more frustrating than arriving in the battle zone and finding out you haven't got the choppers you need to complete the mission. When you have to transport or pick up something, always destroy all of the hostile targets in the immediate area to create a free zone.

On search and destroy missions, fly around the suspected target area in a triangle. Use the normal map to set this flight path. Once the objective has been sighted, its position on the map is updated.

If you send your wingmen out to attempt a reconnaissance mission, make sure you put their weapons on hold when they are near the target, otherwise they will destroy the target when it fires at them.

When doing a reconnaissance mission it is best to use choppers with a mast, as they can observe the target from further away. As soon as you get confirmation that the objective has been achieved, set the wingmen weapons to free so that they can destroy hostile targets again.

Always promote your 0section leaders to the highest ranks. The section leaders usually get fired at most because they fly in front most of the time.

Remember as their rank increases, their ability

How to become an Ace pilot

To get the best scores, reach the highest ranks and get the highest decorations, you will need to be playing the game on the hardest difficulty settings. It is best to progress through the difficulty options in the following order.

1. *Set the flight to the realistic settings. This is the hardest part of the game to get used to. Always make small adjustments to the controls and get used to watching the altitude dials and readouts on the HUD very closely. Always be ready to adjust the torque slightly.*

2. *Set the Wind and Visibility switches to the realistic settings. These do not make the game much harder.*

3. *Now turn off the ground avoidance. Always make sure you don't hit the ground at all costs. By this time you should have flown about 15 missions and be able to fly the realistic flight model comfortably. Turn on the realistic landings. Remember to make sure that you descend very slowly when landing.*

4. *When you can fly missions all the time without any problems on these settings, gradually increase the enemy difficulty level.*

5. *To get the Congressional Medal of Honour you really need to be playing the game on the full difficulty level and on a Flight or Campaign mission. It's not really worth going for the Congressional Medal of Honour unless both mission targets are close to the base. This allows you to destroy these quickly and then fly around the map to look for more targets.*



A healthy supply of the deadly hellfire missiles. But be careful of you weight

cheat mode







Flying along the river banks keeps your profile below the view of the enemy

improves. They will become better at using the Jammers and Chaff/Flares and will not get hit so much. If you run out of chaff or flare it is best to use the outside views to try and dodge the incoming missiles.

If there isn't a FARP point in the mission and you are short of missiles and fuel, landing at the base will also replenish your supplies.

If your HUD is damaged, don't panic. Make sure that you check your altimeter straight away and get the chopper into level flight. Then put the nose down until you reach a reasonable speed (keep an eye on the altimeter). Now fly using these dials.

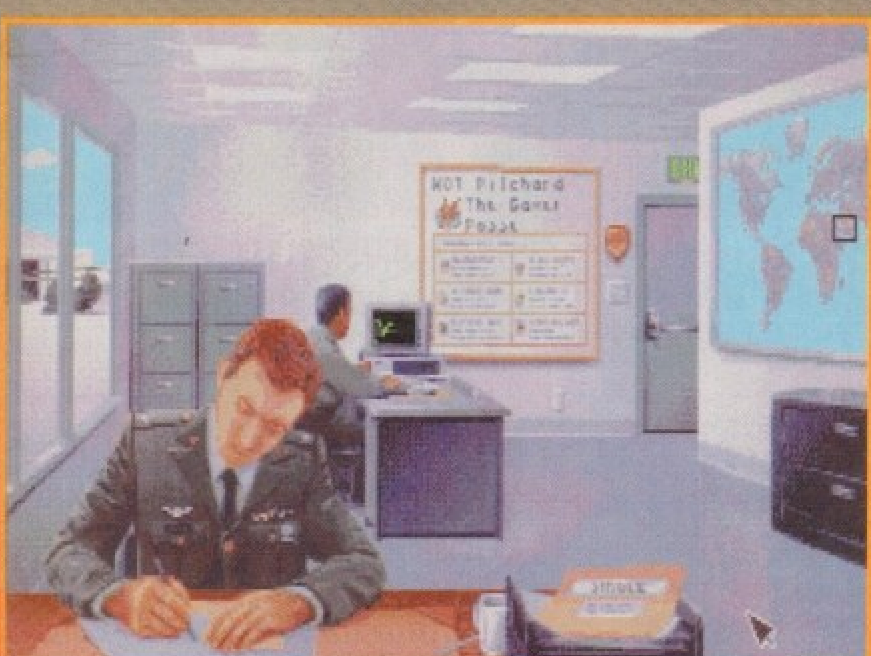
If you are unsure whether a target is friendly or not, just pause the game and it will tell you. If you destroy friendly targets you will lose points from your overall mission score.

Always try to complete both objectives in 30 game minutes or less. A clock is shown in the top left corner of the HUD. If you take longer than this, points are deducted from your final score.

If you chopper has taken lots of damage and you have completed at least one of the objectives, always go back to base. It is much better to get some points and survive than to get shot down. You only have to destroy one of the objectives for the mission to be successful.

If you're about to be shot down or do not have enough power to take off again, use the End Mission function. At least then you have a chance of being rescued.

Finally, the best score achieved so far on a single mission (with wingmen) is 2,312 points. To check your mission score, just check your pilot roster when you are in the headquarters. A good mission score is 1,300 points or more.



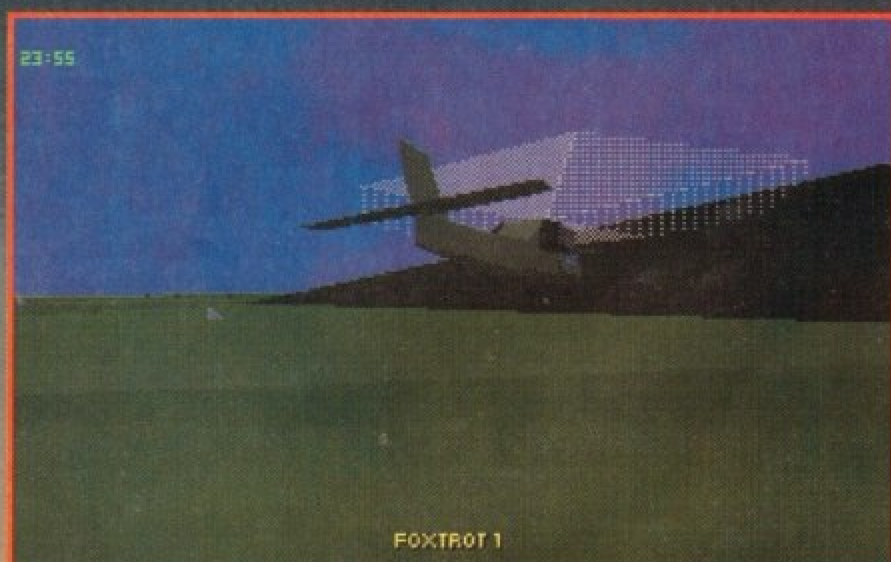
Weapons

Some targets need two hits from hellfire missiles. The most common target that takes two hits is enemy infantry. It is best to destroy these with cannons if possible. Rockets can also destroy infantry units with one hit.

As you will have found out, not all of the weapons are fire and forget. With a lot of the weapon systems, you actually have to remain locked onto the target until it is destroyed. Here is a list of the weapons which you can fire and not have to remain locked onto the target ("fire and forget" weapons):

Stingers, Sidewinders, Sidearm, Maverick, Penguin and All rocket types

Do not change weapons when you are using any of the radar guided missile types. If you do the laser will switch off when you do so. This causes the missile you have fired to lose its lock.



The pop-up attack. Employing this technique is a very effective way of surprising enemy units while ensuring yourself a longer life expectancy

Those techniques in full

The Pop-up Attack

Using this method, you put the chopper into a hover just before the hill and then use the Shift/+ keys to quickly pop up over the hill. Lock onto the target which you can now see over the hill and wait until it fires.

When it shoots at you, use Shift/– to quickly decrease your height and hide behind the hill again. When the enemy missile hits the other side of the hill pop up again, lock onto the target and fire. Your missile should then destroy the target before it can reload and fire again.

Sneaking around the side of hills

Using this method the target should be very close to the hill that you are using for cover. You fly around the side of the hill and destroy the target using the cannon, before it gets a chance to fire.

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AMIGA insight

Expert views on the latest applications

Last month we looked at some of the basic ideas behind the remote control operation of a computer; we saw that three things are basically involved:

1. A terminal program to allow receipt of signals from the serial port
2. A script facility to allow the intelligent processing of the abovementioned signals
3. A link between the terminal and the machine, so that the script can control other programs running on the computer

We have already seen how well ARexx fulfils the last two functions.

Now, there is also another type of program that allows remote control of computers, the so-called bulletin board systems, or BBSs. A BBS is essentially a very specialised terminal program. BBSs allow your computer to become host to anyone calling your number, and will allow callers to upload/download files, maintain postboxes and so on, just like the commercial networks.

Popular Amiga BBS programs include Ami Express, Baud Bandit and TransAmiga, and more are appearing all the time.

Any BBS worth its salt can provide privileged users with some control over the system (as well as excluding unauthorised users).

Also, since ARexx has been making such an impact in the world of Amiga comms, there is hardly a single BBS which doesn't support it.

In other words, you should be able to control your Amiga remotely (including launching programs and getting results) by running a BBS on it. However, BBSs are large programs, and can be very demanding on memory and resources.

They have a special purpose – to be a forum and an information point for many users. Using a BBS for a small remote control operation may be gross overkill.

There is another way. Any ARexx-compatible terminal can be adapted as the engine for a mini-control centre, or even a mini-BBS, if you like. All you need for this is a suitable ARexx script. To try this approach, you will either need to find a ready script, or write one yourself. It is not as difficult as you might think at first.

The distribution of the VLT terminal provides an example mini-BBS, which would be suitable for an experimenter. The terminal and the program are small enough to run on a 1Mb Amiga, and the code can be studied be adapted for your own requirements.

The script program is called FIFOBBS.REXX, because it uses Matt Dillon's excellent FIFO: pipe device. This is not necessary, but it is very elegant, if a bit confusing for a newcomer, since you need to know what a pipe is in the first place.

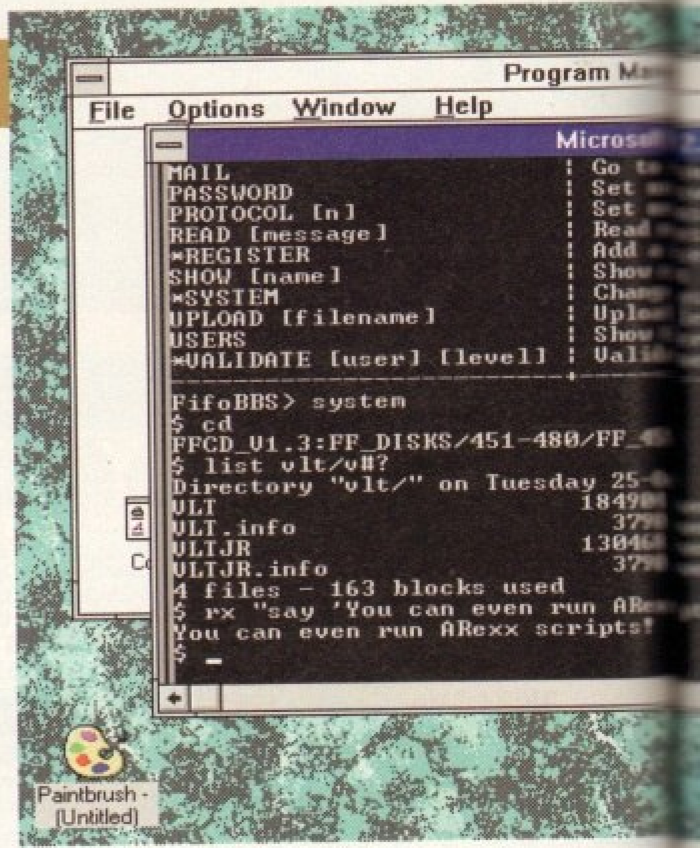
The advantage of using pipes is that you can have a "proper" CLI on your remote machine, without having to write a script to decode the incoming command strings, as we do in the DIY examples below.

The easiest way to obtain VLT is probably from Fred Fish library disk #455. By the way, VLT has many, many, more features, including a version with Tektronix emulation, for use by academic establishments!

Its full documentation is available from the USA, free for the asking. The VLT project was actually funded by the US government, and was developed for use at the Stanford Linear Accelerator Centre, so it's nice to see the Amiga being taken seriously.

Willy Langeveld, who wrote VLT, has also made other substantial contributions to the ARexx scene, including the extremely popular RexxArpLib and RexxMathLib libraries.

So, with a setup like this you can run a remote Amiga CLI from just about any computer, as you can see in the



illustrated example.

However, you don't need a fully-featured CLI to control the Amiga from a distance. Any package that allows commands to be sent to the CLI or to ARexx will do.

The popular NComm package, for instance, provides the commands CLI and SPAWN, for these two tasks respectively; most other terminals will have some kind of equivalent command.

As we saw in the last issue, a remote-control script for your terminal is simply composed of a few loops that check the input from the serial port, and take appropriate action.

You will see that the actual number of commands provided by the terminals is rather small, since ARexx can do so much of the work itself.

Most of the commands will simply duplicate the menu functions, control the terminal settings and so on. In addition to

Sampling the

It is nice to see books on ARexx starting to appear on bookstore shelves, and from time to time we will be reviewing them here. Today we look at a book from the United States, *The ARexx Cookbook* by Merril Callaway.

The Cookbook is not meant to be a complete ARexx manual, and the author says so, right from the start. Instead, it is an interesting blend of ideas and examples, which makes frequent cross-references to the ARexx manual, in order to avoid duplication. If you are looking for a book from which to learn the basics of ARexx, look elsewhere. This book is strictly a supplement.

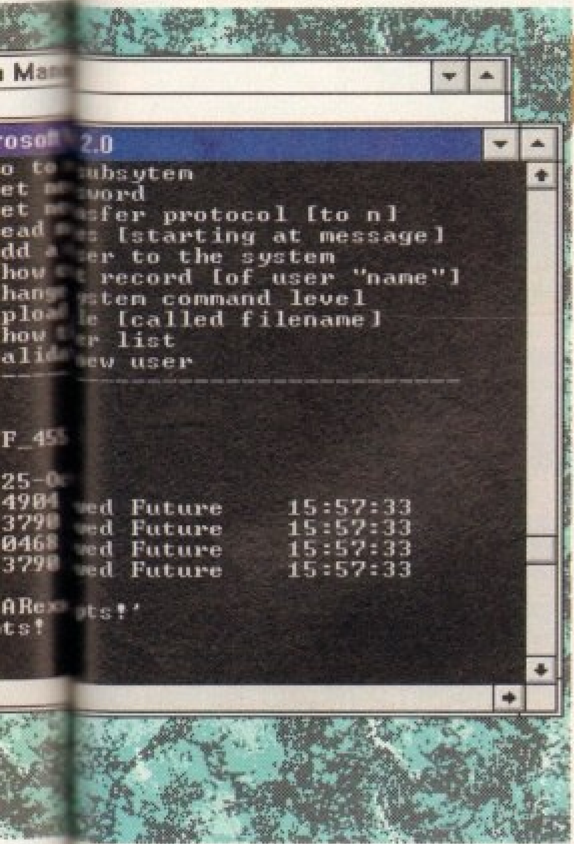
Having said that, I found that the book dealt quite nicely with concepts like parsing and the use of macros, and the reading was leisurely and ideal for beginners.

There were also several hypothetical examples, which although not very useful in themselves, will give a good understanding of ARexx programming when worked through.

There are sorting examples, recursive problem-solving examples, and some useful text processing examples. In all of these, the author's enthusiasm for the language spills over.

I felt that there was not sufficient coverage of using ARexx with AmigaDOS, and there is no mention of the rexxsupport library, or of setting up loops to receive ARexx messages. Then again, these subjects may be a bit beyond the scope of a book like this.

On the other hand there is good general discussion on how



Running a remote CLI on a PC, using an ARexx controlled terminal (VLT) on the Amiga side

these, you will find some commands to send and receive character strings, detect a phone ring, and reset an interrupted connection.

Even if a terminal has no explicit facilities for executing CLI or ARexx programs – so long as it can run ARexx scripts – there is no real problem; with a suitable script, the machine can be controlled directly from ARexx, bypassing the need for special terminal commands. As always, there's more than one way to skin a cat when using ARexx.

So, your script could contain a loop that checked each line coming in from the remote machine, most likely by using the Parse instruction. A Select statement could then look out for keywords which you had predefined, eg CLIit, AREXXit, SendToProgram or whatever...

Commands for the CLI would be handled by the standard ARexx ADDRESS COMMAND xxxx instruction. Their output or results could be redirected to temporary files, or pipes, and then sent back to the remote machine via your terminal's SEND command, as we saw in the last issue. An extensive discussion of redirection can be found back in the July issue.



If you needed access to ARexx facilities you could use the Interpret instruction, which allows arbitrary strings to be processed just as if they were part of the ARexx program itself. In this way, not only could you control remote ARexx-compatible applications, but you could also run little ARexx scripts on the fly, without even having a CLI window to run them from!

Interpret is one of the more important and powerful ARexx instructions, and since it has not yet got all the attention it deserves, we will be looking at it next time!

Distant voices

Alex Gian continues his look at remote-controlling the Amiga using the ARexx language

he ARexx cookbook

to use ARexx to enhance applications which have ARexx interfaces. Coverage is also given to certain specific subjects, and if your interests coincide with these subjects, then this book could be for you.

There are a couple of good examples given for using ARexx with Art Department Pro, as well as some programs to deal with aspect ratio scaling. There are also scripts for the TurboText editor.

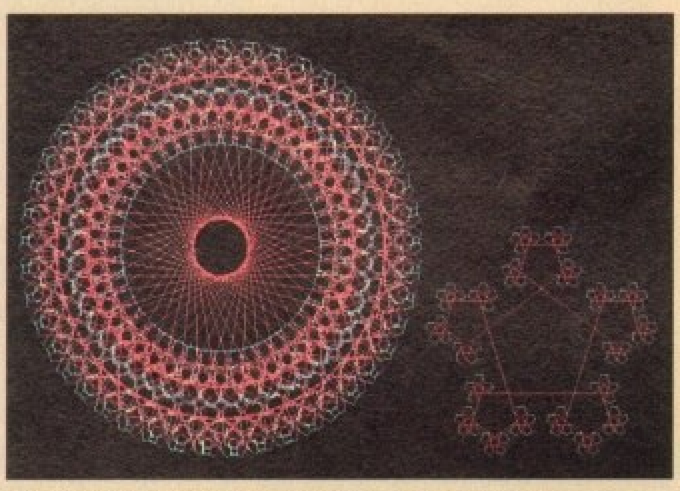
I particularly enjoyed the section on using ARexx to control PostScript devices, which has some useful suggestions.

Two Cookbook companion disks are available at extra cost. The first one contains the example code from the book, as well as some useful freely distributable libraries. The RexxArpLib.library in particular is a very handy piece of ARexx kit, and allows you to use the Amiga system graphics.

I was pleased to see that it was the latest version, which is compatible with Workbench 2.0. There are also some macros for FinalCopy, and other programs.

The second disk contains code for an ARexx index builder for DTP (useful), some utilities for viewing 24-bit pictures with Directory Opus, and some stuff for exploiting the jpeg compression of ADPro. All pretty specialised stuff. There is also some amusing code for producing "starfractals" using PostScript or MathVision.

At £35 including the disks, the book is pricy – but perhaps this is inevitable with US imports. If it cost half its current price, I would recommend it much more heartily.



Starfractals created using ARexx. Part of the Cookbook's second disk, which also shows you how to print them to PostScript...

As it stands it is a good, fun book, certainly not essential, but if you are looking for something extra and you don't mind the price, it will serve you well.

I would also recommend it if you have a PostScript laser printer, or if you want to learn how to customise an ARexx-compatible editor. The book has some very good bits, but all things considered I cannot give it more than six out of ten.

The ARexx Cookbook is available from PremierVision, 31C Herne Hill Road, London SE24 0AX. Tel 071-274 4407. Price £24.95, with first disk £29.95, with second disk £34.95.

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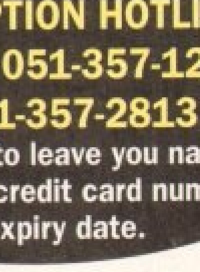
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Dream system

Paul Austin throws caution to the wind and sets about building the best Amiga-based video environment money can buy!

Although dramatic, this month's big intro may also be just a tad misleading. When I say "the best money can buy" I really mean the best "sensible" money can buy - which precludes BetaCam edit recorders, TBCs, A/B roll suites and so on...

Courtesy of the fact you're already reading *AC* it's a safe bet you already have a machine. However for those contemplating an upgrade I strongly suggest that you consider a desktop-style machine such as the A1500, A3000 or A4000, due entirely to the expandability that Zorro slots provide.

Thanks to the nature of DTV, the add-ons never seem to end – and to employ them effectively extra RAM, extra storage and dedicated add-ons plus acceleration is often a must.

For basic titling neither Zorros nor excessive speed are essential, but if you're planning to take your DTV further an 030 is really the minimum for effective animation, presentation and post-production work.

Lastly if you're planning to add ray-tracing to your repertoire ensure that an FPU comes as part of you new machine or accelerator. Ray-tracing without an FPU can be incredibly slow – as indeed can all heavy number-crunching applications.

Despite the fact that DPaint can be painfully slow in its AGA form, it nevertheless remains the key animating tool for any system. If however your aspirations go further than spinning logos, title scrolls and backdrops, 3D is probably your next move.

If so, the choice falls between Imagine2 and Real 3D Classic. Although there's a vast array of programs available, this duo offer by far the best performance-to-price ratio.

SUPERIOR ANIMATION

Both packages retail at roughly the same price with Real 3D providing a simpler window into 3D, while Imagine2 offers superior animation and photo-realism.

Although not essential for basic DTV, the flexibility and added creativity that image processing offers can put the Amiga alongside even the most powerful digital video systems.

As far as image processing is concerned there's one package that quite literally blows the opposition away. If you've not already guessed, the software in question is the all-conquering ADPro.

Even though ADPro has suffered stiff competition lately with the arrival of ImageFX and Image Mr/Master – both of which offer impressive performance – it holds its position as the premier DTV image engine thanks almost entirely to ProControl.

Courtesy of this the latest member of the ADPro family, automated multi-frame image processing is a simple matter of pointing and clicking. Even highly complex DVEs can be simulated with the aid of the program's built-in incrementing variables. When this is combined with its composition and special effects features, its quite simply unbeatable.

If you're a regular to the glossy folds of *AC*, there's a strong chance you've already been exposed to one of the leading contenders in the title race, namely ScalaHVT – which appeared in the June issue. The aforementioned HVT is far from alone in the budget market being hotly pursued by BAS2 from Alternative Image. However for the power players there's again a choice of two power programs in the form of Broadcast Titler II and Scala MM200.



Even though the former offers excellent titling and extremely smooth scrolling it badly lacks the flexibility offered by MM200 – a program which can not only title video but also provide animated backdrops, links to other media including display boards, CD and CD-ROM, Midi and much more besides.

Besides the footage itself music is perhaps the most important aspect of any production. And again there's a huge array of sequencing and sampling combinations with which to build a production.

However in the best traditions of our "not much expense spared guide to DTV" the ultimate combination has to be B&PPro2 and the SunRize range of 12 and 16-bit direct-to-disk samplers.

As for sequencing, B&PPro2 simply can't be beaten. It's fast, flexible and incredibly powerful while acting as a centre-pin for a whole family of add-ons such as SuperJam1.1 – a program that can generate perfectly acceptable background music in the style of your choice in seconds.

B&PPro also has the added bonus of Media Madness – an element of the program which provides control over external devices such as genlocks and laser discs in addition to direct ARexx control over other programs such as the aforementioned Scala MM200.

On the sampling side the SunRize 12 and 16-bit boards win the day not only because of quality but also their affinity with B&PPro2 which can control both of them, thereby adding frame-accurate soundtracks and special effects to live Midi output while running Scala titling and animation at the same time.

However be warned – you'll need an A4000 with a sizeable RAM and hard disk to achieve such a high degree of automated co-ordination.

As far as plug-ins go the list is endless, but in my opinion the hottest item at the moment has to be VLab Y/C. Although merely a humble high performance full-frame grabber in the past, this latest Y/C revision has revolutionised DTV by providing access to accurate sequential grabbing.

Once processed with a combination of ADPro and ProControl, these sequential creations mean apparently live action DVEs are now within the reach of anyone.

On the playback side, DCTV still remains the only method that comes close to 25 frames per second full-screen playback – although when large areas are animated even DCTV suffers badly.

In addition, the unit also lacks the ability to genlock with live video due to its composite-only output. As a result the talents of a fast AGA Amiga are often more useful – especially when smaller scale animation is require.

The future...

With the arrival of the Amiga CD32, the Mpeg revolution is only just around the corner. Although not shipping with the CD32, the Mpeg module is planned for release in the autumn. Speaking from experience I can tell you the full-motion video or FMV offered by the module is nothing short of spectacular.

When – as promised – Mpeg technology spreads to the A4000 and A1200, DTV could see the biggest change in the history of the machine. As yet it's unclear whether the Mpeg chips will be accessible by the Amiga itself or simply as a spooling medium for the CD-ROM.

If as expected the technology will be a shared commodity, animation could be spooled to the chips direct from hard disk thereby providing full frame digital video and at reasonable cost of space and expense.

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Pascal for beginners

Colin Yarnall says "Hello World!" in the language of the academics



Pascal was designed as a teaching language way back in 1971 by Professor Nicklaus Wirth. Consequently, it is exceedingly good for teaching the fundamentals of computer programming and developing a structured, methodical approach to writing code.

Over the years Pascal has been implemented on the majority of computers and numerous deviations have been made from the ISO specification by compiler writers.

This has had the effect of making the language less portable than it once was, although the key features have always remained intact.

The most popular version has set a de facto standard on the IBM PC in the form of Turbo Pascal. This has been implemented as HighSpeed Pascal on the Amiga by HiSoft in conjunction with D-House.

As you would expect, this dialect allows access to all of the Amiga's operating system routines as well as providing compatibility with Turbo Pascal.

In Amiga circles, there are two kinds of HighSpeed Pascal programmer – those who already know the Pascal language, but need to learn some Amiga specifics, and those who are complete novices.

Because the more experienced programmers are quite capable of learning all about the inner workings of the Amiga by themselves, we must ask them to do just that for the time being.

I realise that this will leave one or two Pascal-literate readers wondering where to start, so let's point them in the right direction.

Anyone eager to take on the Amiga's operating system will need to obtain the ROM Kernel Reference manuals which are available from all good book shops or directly from HiSoft. Buying the complete set in one go is an expensive business so you may find it useful to buy them one at a time, as finances permit. This begs the question: Which one should I buy first?

Without a doubt, the most useful starting point is with the Libraries RKRM which covers topics such as screens, windows, menus, gadgets and all the others needed to give your programs the Amiga look. After that you will soon find that you want a copy of the Devices RKRM.

START FROM SCRATCH

Although the manuals include example code written in C, the accompanying tutorials provide good explanations and sufficient detail to convert them to Pascal.

I would advise you not to attempt a straight conversion, but to start from scratch as this will give you a better understanding of what the programs do and how they do it.

It is not absolutely necessary to know how to program in C in order to understand the manuals, though this is clearly an advantage.

Once you know the names of the routines that you need, look through the Units to find out whether they have been implemented as procedures or functions. Having done that, you should be well on the way to writing some nice-looking programs.

For the time being, this column will concentrate on teaching the fundamentals of Pascal programming and will tackle the likes of Intuition, Devices and so on some time in the future.

Traditionally, the first program anyone writes with a new language is the Hello World example. In Pascal it looks like this:

```
Program HelloWorld;
begin
 writeln('Hello World.');
end.
```

The first line indicates that you are looking at a program, rather than any old text file, and that it is called HelloWorld. By convention, the program is stored in a file of the same name but with a file extension of .pas:, for instance:

```
DF0:HelloWorld.pas
```

The word begin indicates the start of the program while the end of the program is marked by the word end. The body of the program is that part of the program that lies between these begin-end brackets and in this case takes the form of a single statement.

In Pascal, each statement is terminated by a semi-colon (;) with the exception of the final end statement, which is followed by a full stop to indicate the end of the program. This allows long statements to be split over several lines to make the program more readable.

Having produced the simplest of programs, we are now going to take a closer look at text output. The writeln procedure follows its output with a carriage return and line feed so that subsequent output will appear on the next line down. For example, if we wanted to out put the text:

```
My first Pascal program is called:
Hello World.
```

we would add a writeln statement to the program:

```
Program HelloWorld;
begin
 writeln('My first Pascal program is called:');
 writeln('Hello World.');
end.
```

The writeln procedure is very similar to a procedure called write, the only difference being that write does not move the output position to the next line.

To demonstrate this, change the first writeln into write and run the program again. In order to make the output more readable, you might like to add a space after the colon in the third line.

Having done that, we now will alter the output to read:

```
This is my first Pascal program, it's called:
Hello World.
```

Notice that we need to use an apostrophe which is the same character that we use to mark a text string. If we were to use the line:

```
writeln('This is my first program, it's called:');
```

the compiler would be confused because it is expecting a pair of delimiting apostrophes but sees a line with three of them. To work around this, it is necessary to use a fourth apostrophe to tell the compiler exactly what we mean:

```
writeln('This is my first program, it''s called:');
```

It is usual to write comments in source code to make it clear what is going on, but we'll leave that until next month

Sweet sixteen

Paul Austin cocks an ear to the sound of 16-bit silence as the AD516 takes the stage and a £400 price cut!

As you're probably well aware, the AD516 16 direct-to-disk sampler has been around for some time. However with the DSP still missing on the Amiga, and the lack of any serious competition from other third-party developer, it still remains the only true CD-quality mastering system on the machine.

Regardless of other factors, the AD516's specification alone makes it an attractive route to true digital recording. Eight-track mono/four-track stereo, virtual memory, direct-to disk storage, CD-quality recording and simultaneous playback plus a £400 price drop allow the board to retail at a new bargain price of approximately £1,000.

Before delving into the hardware itself, it's perhaps worth explaining why 16-bit sound is so special. In short, the whole equation revolves around the SNR, or signal-to-noise ratio of the various formats.

At best, 8-bit sampling has a theoretical maximum sine wave of 48dB – roughly that of AM radio. Twelve-bit manages a much improved 72dBs, or more or less FM quality, while the 16-bit reproduction of the AD516 stretches the sine wave to the limits of the human ear at 96dBs, or CD quality.

Assuming you have a sound source coming in and an output to some form of amplification, sampling is simply a matter of loading the software and opening the Meter window plus either the Transport or Recorder windows – either of which can start the sampling process.

Prior to any sampling you must first specify the destination for the sample via the Master preferences – which can of course save out default settings. If the monitor option is selected, the incoming signal will be displayed on the analogue, digital and graphical displays within the meter windows.

From within Record, Transport or Mixer you can adjust the gain of the incoming signal to provide the perfect input and output level for the board.

When satisfied with the various levels, filter settings, and of course sampling rate, you can hit record, instantly capturing the incoming signal.

The captive can then be renamed if necessary and assigned to an appropriate channel for playback. From then on, adding more samples is simply a matter of repetition.

POWERFUL CONTROLS

Obviously it won't be long before the samples start to pile up, and it's at this point when the power of the transport controls comes into its own.

If you've ever used a four-track, or almost any analogue equipment, the phrase "ping-pong recording" will be a familiar one.

Basically, "ping-ponging" allows you to mix any existing samples with each other or as part of a new sample. Once mastered this technique means an unlimited number of samples can be combined into a new super-sample, thus freeing the original channels for fresh recording.

Using this approach, huge sounds can be built up in stages. And because you're working with digital rather than analogue there's absolutely no sound degradation.

The only restriction is that all ping ponging operations are destructive, so if a remix is required the original component samples must be put in storage until you're absolutely happy with the mix – the question is, will you have any space to store them?

Once a sample is recorded – stereo or mono – it can be highlighted within the Openlist and edited via its own sample editing window.

The usual array of cut, copy and paste are all on hand with a few more advanced features such as scale, flip, fade and freehand. Unfortunately, although well implemented and easy to use, editing is pretty basic and does suffer badly against even some 8-bit editing systems. However even though the editing and effects are limited, the program's excellent sample sequencing capabilities more than make amends. Unlike its counterparts, Studio16 has a professional and flexible approach to the problem.

Thanks to the SMPTE-In on the rear of the board and the Cuelist within the software, an unlimited number of samples can be assigned to specific timecode positions.

As a result, anyone – whether they be a musician or videographer – need only strip their tape with SMPTE (LTC) timecode and send the subsequent signal to the board.

My only complaint is that the board and software combination can only read rather than write SMPTE timecode.

This is particularly annoying as the program generates its own internal timecode in order to sync the Cuelist and as a source with which to communicate directly with Bars & Pipes professional 2 – the only sequencer supported by the board. Because of this annoying omission, you're almost forced to invest in an SMPTE timecode generator – assuming your source cannot generate its own – in order to strip the tape prior to synchronisation.

For strictly Midi-based systems the problem is compounded, as not only is an SMPTE generator essential, but also a Midi-to-SMPTE converter – unless of course you're employing the direct link with B&PPro2.

As mentioned earlier, Bars & Pipes Pro can sync directly with the "cuelist". Consequently the output of the board and B&PPro2 can be directly synced without the need for an external SMPTE signal.

Thus it's possible to cue samples to specify Midi notes allowing a perfect combination of samples, music and video – assuming the sync is provided from the video source.

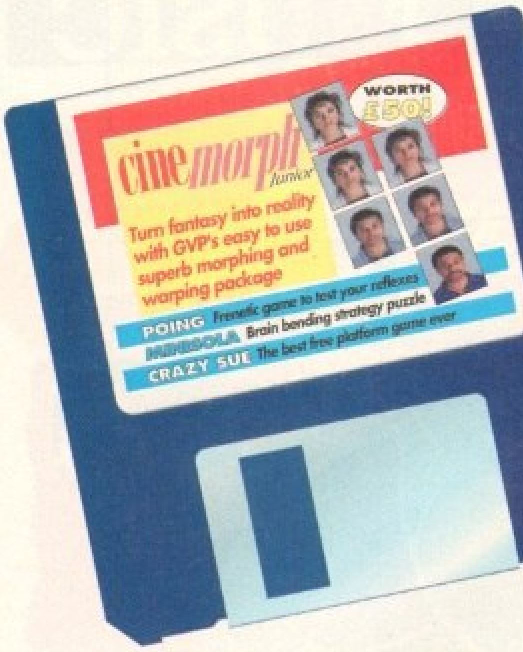
Another option is to sync an entire track or even tracks to the Midi output, thereby allowing analogue specialities such as guitar solos, acoustic instruments and vocals to be added to the Midi output – providing a pure digital recording from start to finish.

● *For more information on the AD516, Contact SofTel on: 071-638 2156.*



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Live and direct

Phil South looks at a new and bigger service from The Direct Connection

A longish time ago I joined a new exciting service called the Direct Connection. It had a lot of things which my other services didn't have – Usenet read and write, Fax gateway, on-line news from Newsbytes and other services too numerous to mention.

Then CIX got all those things, plus Internet too, and my interest in TDC faded a little. Sure I still logged on once in a while to pick up my messages, flick the news and write to Usenet, but it wasn't where I lived.

Besides I could get mostly what I wanted via CIX and other sources so there wasn't really any need for me to take on another service. But this may change soon.

Last week I logged on to pick up my mail and I got a bit of a surprise. The board has got itself a new look, it also has some more muscular facilities. Not only does it now have Internet access, but also FTP, Gopher, Archie and other on-line Internet utility programs.

Read/write gateway

The layout of the Internet stuff is much more logical than the rather more open CIX Internet gateway, giving you a range of choices rather than just a prompt. The Usenet ready is a trifle complex, but it is a genuine read/write gateway, not unlike the one that CIX tested on its beta machine a few months ago.

The organisation of the board is good, and most functions are available from the command line, like GO MAIN, GO MAIL, GO FTP, to save time blipping from menu to menu. Mail is still a trifle cumbersome, and in a lot of menus you can't use short-cuts like GO MA for mail, RE for read like you can on CIX. Still, fair's fair, I wouldn't like this to turn into a competition between CIX and TDC. Both have their good side, and both have things which are devilishly annoying.

One thing I do like very much at the moment is the FTP access, which is great, allowing a number of oft-used FTP sites to exist on a menu, helping to avoid extensive keying in.

OK, you can arrange for scripts and macro keys, but then again you can also spend a lot of time keying stuff in and waiting for the next menu before you hit the macro key.

I don't know why but it also seems to me that the link at TDC is much faster. Less people on line? I think perhaps there might be, but all the same the speed seems faster to me. Might be my imagination but try it yourself and see...



I like the new look, and I think you will too. If you comm at rates between 2,400 and 14,400 V32, V32bis, V42 MNP and so on, then you can use TDC.

Membership is cheap too, with – at least when I joined – a simple monthly charge. Don't get me wrong here, CIX is still my main man, but now if the lines are busy I have an alternative...

• *For up to date details on how to join the Direct Connection call 081-317 0100 (voice) and ask for a membership pack.*



Logging on to the Direct Conection

To contact Phil South email him as:
snouty@cix.compulink.co.uk
uad1135@dircon.co.uk

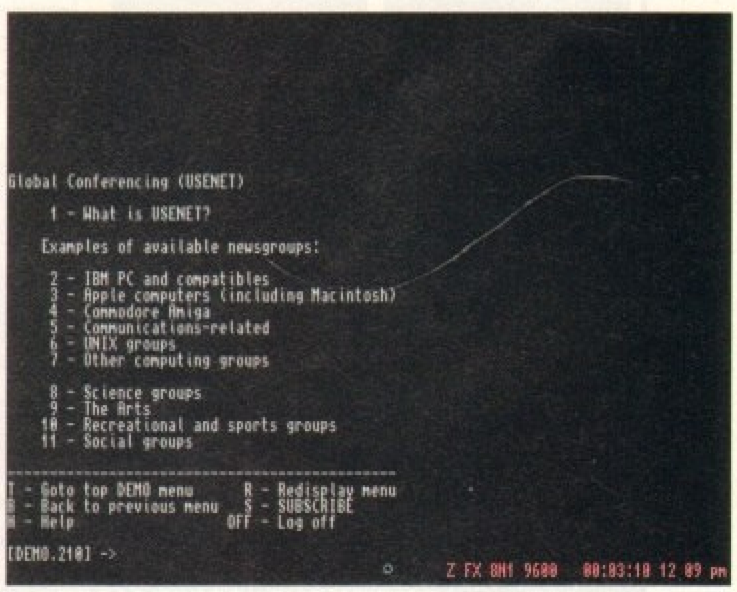
Cautionary tale

If you were a fan of Rusty & Edie's BBS in the US (Hi there, 14K fans) you're out of luck. So are Rusty and Edie, for that matter. One of the world's biggest independent BBSs has fallen foul of copyright law, as in among their multi-gigabytes of software were a few cracked games.

I suppose having so much to manage means you do sometimes let something slip through the net, but that's no excuse. The Feds moved in and closed them down, and although I personally would argue that R&E weren't really guilty (the people who dumped the software are), they are liable for letting it happen which in the eyes of the law is the same thing.

The board was generally speaking very reliably run I always thought, and now because of a few silly mistakes they're out of business. Shame, but let that be a lesson to you. If you own a BBS you also own a big responsibility to those people whose software might get stolen and distributed through you.

It's what amounts to receiving stolen goods. So take great care what people leave lying around on your board, and all will be well.



The board provides useful information for beginners

A bit of an odd edition of the column this month, as it's almost entirely composed of listings.

I knew you folk wouldn't disappoint me! No sooner do I mention that there's a compo here in the Amos column than we're up to our collective butts in disks. Now after much deliberation we've come up with the winner. Yes, it's Mandelbrot Explorer by William Creasy of Hawthorn, Victoria, Australia.

He says "I come from afar, and so hopefully not too late! Hope you like my effort." Well, Will far from just being just an effort, yours is a rather good effort. Let's take it to bits and see.

Fractals are all maths and little magic really, but Will's program does some very clever stuff. Clever particularly how the program matches mouse zones with subroutines, also using a IFF picture of a fractal as the initial drawing and then using that to redraw the zoomed areas.

In order to make the program work you must load the bank 5 and bank 6 abk files from the CoverDisk into bank 5 and 6 (easy), and save them with the typed-in program (the source code is on the disk too!). Then the IFF files can be UnSpacked as it were.

Nice one, Will. Big prize to you. Back to our regular service next issue.

```
Curs Off : Flash Off : Cls 0
Unpack 6 To 0
Wind Open 1,35,50,30,12,1
Curs Off : Pen 15
Centre "Mandelbrot Explorer "
Print : Centre "(c)1993 William Creasy"
Print : Centre "For Amiga Computing Amos"
Print : Centre "Fractal Competition"
Print : Print : Centre "This program is"
Print : Centre "Public Domain"
Print : Print : Centre "Please read the docs!"
Screen Display 0,,98,,
Screen Show 0
Repeat : Until Mouse Click=1
Limit Mouse 129,40 To 447,297
Gosub RESET
Gosub REDRAW
Do
   On Menu On
   ZNE=Mouse Zone
   If Mouse Click=1 and ZNE<>0
      On ZNE Gosub EX1,EX2,EY1,EY2,EIT
   End If
   ZNE=0
Loop
GENERATOR:
MSG2$="Rendering..."
Gosub REDRAW
Screen 0 : Cls 0 : Hide On
```



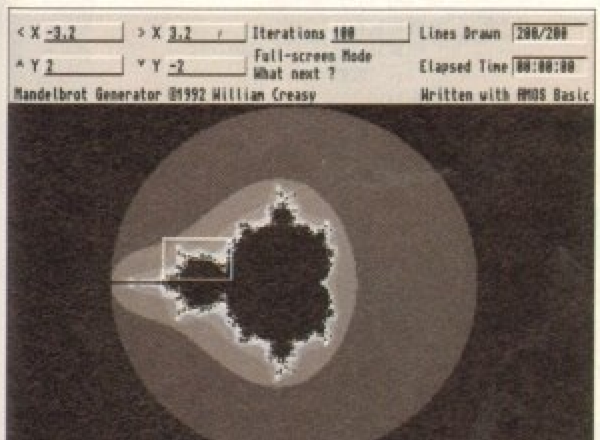
Mega Mandy

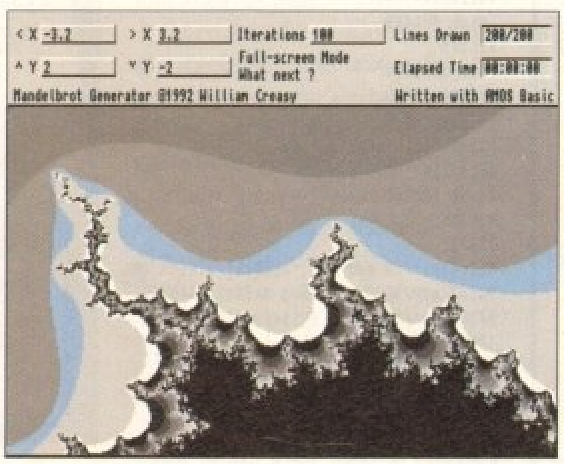
Phil South looks at the winner of the Write an Amos Mandelbrot competition

```
' Mandelbrot Explorer
' (c)1993 William Creasy
' Last compiled 16/6/93
' Entered into Amiga Computing fractal competition
'
A#=0.0
SQUARE=True
Unpack 5 To 1
Reserve Zone 5
Set Zone 1,38,8 To 124,18
Set Zone 2,172,8 To 258,18
Set Zone 3,38,27 To 124,37
Set Zone 4,172,27 To 258,37
Set Zone 5,350,8 To 436,18
Menu$(1)=" Project "
Menu$(1,1)=" Render   "
Menu$(1,2)=" Save IFF "
Menu$(1,3)=" Reset    "
Menu$(1,4)=" Quit     "
Menu$(2)=" Options "
Menu$(2,1)=""
Menu$(2,2)=" Preview Mode    "
Menu$(2,3)=" Fullscreen Mode "
Menu$(2,4)=" Zoom            "
Menu$(2,5)=" Be Square   Yes "
Menu On
On Menu Gosub PROJECT,OPTIONS
Screen Open 0,320,200,16,Lowres
Screen Hide 0
```

```
XGAP#=(X2#-X1#)/SWIDE# : YGAP#=(Y2#-Y1#)/SHIGH#
Timer=0
For Y=0 To SHIGH#
   Gosub STATS : Screen 0
   YNEXT#=Y1#+(Y*YGAP#)
   For X=0 To SWIDE#
      XNEXT#=X1#+(X*XGAP#)
      AX#=0.0
      AY#=0.0
      COUNT=0
      Repeat
         AXNEW#=AX#*AX#-AY#*AY#+XNEXT#
         AYNEW#=2.0*AX#*AY#+YNEXT#
         AX#=AXNEW#
         AY#=AYNEW#
         If COUNT>ITERATIONS
            COUNT=0
            Exit
         End If
         Inc COUNT
         If Mouse Click=1
            Show On
            Goto LEAVE
         End If
      Until AX#*AX#+AY#*AY#>4.0
      PIGMENT=COUNT mod(Screen Colour-1)
      Plot X,Y,PIGMENT
   Next X
```

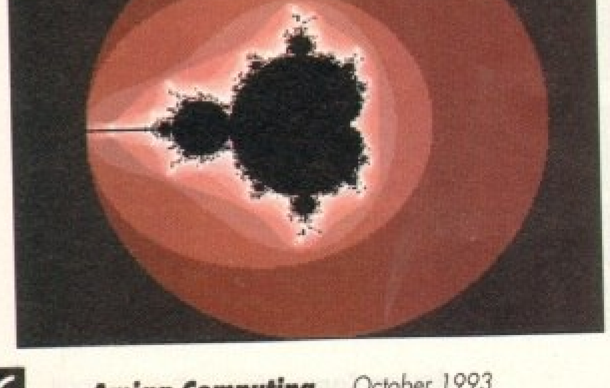
```
Next Y
LEAVE:
Gosub STATS
MSG2$="What next ?"
Gosub REDRAW
Show On
Return
PROJECT:
If Choice(2)=1
   Gosub GENERATOR
End If
If Choice(2)=2
   F$=Fsel$("*.iff","","Save work as .IFF picture","")
   If F$<>""
      MSG2$="Saving work..."
      Gosub REDRAW
      Screen 0
      Save Iff F$
      MSG2$="What next ?"
      Gosub REDRAW
   Else
      MSG2$="NOT SAVED!"
      Bell
      Gosub REDRAW
      Wait 50
      MSG2$="What next ?"
      Gosub REDRAW
   End If
   F$=""
End If
If Choice(2)=3
   Gosub RESET
   Gosub REDRAW
End If
If Choice(2)=4
   End
End If
Return
OPTIONS:
If Choice(2)=2
```



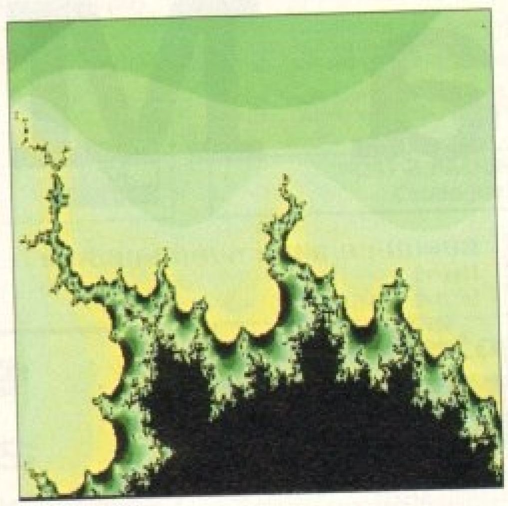




```
   Gosub PREVIEW
End If
If Choice(2)=3
   Gosub FULL_SCREEN
End If
If Choice(2)=4
   Gosub _ZOOM
End If
If Choice(2)=5
If SQUARE=True
   SQUARE=False
   Menu$(2,5)=" Be Square   No  "
Else
   SQUARE=True
   Menu$(2,5)=" Be Square   Yes "
End If
End If
Return
REDRAW:
Screen 1
Ink 1,0
Cls 0,40,9 To 123,17
Text 42,16,X1$
Cls 0,174,9 To 257,17
Text 176,16,X2$
Cls 0,40,28 To 123,36
Text 42,35,Y1$
Cls 0,174,28 To 257,36
Text 176,35,Y2$
Cls 0,352,9 To 435,17
Text 354,16,ITERATIONS$
Cls 0,552,9 To 629,17
Text 554,16,LINE$
Cls 0,552,28 To 629,36
Text 554,35,TIME$
Cls 0,268,20 To 430,40
Text 269,29,MSG1$
Text 269,39,MSG2$
Return
RESET:
```



```
X1#=-3.2 : X1$="-3.2"
X2#=3.2 : X2$="3.2"
Y1#=2.0 : Y1$="2"
Y2#=-2.0 : Y2$="-2"
ITERATIONS=100 : ITERATIONS$="100"
SWIDE#=320.0
SHIGH#=200.0
MSG1$="Full-screen Mode"
MSG2$="What next ?"
LINE$="200/200"
NOLINES$="/200"
TIME$="00:00:00"
Unpack 6 To 0
Return
_ZOOM:
MSG2$="Select zoom area..."
Gosub REDRAW
Screen 0 : Change Mouse 2 : Ink Screen Colour-1
While Mouse Click<>1
Wend
BX1=X Screen(X Mouse) : BY1=Y Screen(Y Mouse)
Repeat
   Gr Writing 2
   BX2=X Screen(X Mouse) : BY2=Y Screen(Y Mouse)
   Box BX1,BY1 To BX2,BY2
   Box BX1,BY1 To BX2,BY2
Until Mouse Click=1
If SQUARE=True
   BY2=BY1+((BX2-BX1)*(200.0/320.0))
```



```
End If
Gr Writing 1
Box BX1,BY1 To BX2,BY2
XGAP#=(X2#-X1#)/SWIDE#
YGAP#=(Y2#-Y1#)/SHIGH#
X2#=BX2*XGAP#+X1# : X2$=Left$(Str$(X2#),10)
Y2#=BY2*YGAP#+Y1# : Y2$=Left$(Str$(Y2#),10)
X1#=BX1*XGAP#+X1# : X1$=Left$(Str$(X1#),10)
Y1#=BY1*YGAP#+Y1# : Y1$=Left$(Str$(Y1#),10)
MSG2$="What next ?"
Gosub REDRAW
Change Mouse 1
Return
PREVIEW:
SWIDE#=64.0
SHIGH#=40.0
MSG1$="Preview Mode"
NOLINES$="/40"
Gosub REDRAW
Return
FULL_SCREEN:
SWIDE#=320.0
SHIGH#=200.0
MSG1$="Full-screen Mode"
NOLINES$="/200"
Gosub REDRAW
Return
STATS:
SEC=Timer/50 mod 60 : SEC$=Str$(SEC)
MNS=Timer/3000 mod 60 : MNS$=Str$(MNS)
HRS=Timer/180000 : HRS$=Str$(HRS)
TIME$=HRS$-" "+":"+MNS$-" "+":"+SEC$-" "
LINE$=Str$(Y)
LINE$=LINE$+NOLINES$
Gosub REDRAW
Return
EX1:
```

Get typing!

We've printed this listing for those of you who wish to work through it with your copy of Amos as a learning exercise. What are your views on our printing listings? Do you think it's a good idea, or a waste of space? Write to Stevie Kennedy, *AC*'s editor, at the usual address and let us know your opinions to help us decide whether to repeat this exercise in the future

```
Cls 0,40,9 To 124,18
ENTER_TEXT[41,16,9,Asc("-"),Asc("9")]
X1$=Param$
X1#=Val(X1$)
Return
EX2:
Cls 0,174,9 To 258,18
ENTER_TEXT[175,16,9,Asc("-"),Asc("9")]
X2$=Param$
X2#=Val(X2$)
Return
EY1:
Cls 0,40,28 To 124,37
ENTER_TEXT[41,35,9,Asc("-"),Asc("9")]
Y1$=Param$
Y1#=Val(Y1$)
Return
EY2:
Cls 0,174,28 To 258,37
ENTER_TEXT[175,35,9,Asc("-"),Asc("9")]
Y2$=Param$
Y2#=Val(Y2$)
Return
EIT:
Cls 0,352,9 To 436,18
ENTER_TEXT[353,16,9,Asc("0"),Asc("9")]
ITERATIONS$=Param$
ITERATIONS=Val(ITERATIONS$)
Return
Procedure ENTER_TEXT[X,Y,MOST,LORANGE,HIRANGE]
   Ink 1,0
   RET=68 : ENTER=67 : BACK=65
   While SC<>RET and SC<>ENTER
      K$=Inkey$
      SC=Scancode
      Ink 3 : Draw X,Y To X+7,Y : Ink 1
      If Asc(K$)>=LORANGE and Asc(K$)<=HIRANGE
 and Asc(K$)<>47
         If COUNT<MOST
            Inc COUNT
            Text X,Y,K$
            Add X,8
            TXT$=TXT$+K$
         End If
      End If
      If SC=BACK and COUNT>0
         Ink 0
         Draw X,Y To X+7,Y
         Ink 1
         Add X,-8
         Text X,Y," "
         TXT$=Left$(TXT$,COUNT-1)
         Dec COUNT
      End If
   Wend
   Ink 0 : Draw X,Y To X+7,Y
End Proc[TXT$]
```

Write stuff

If you have an Amos question write to Phil South, Amos Column, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Head start

Ben Pointer converts design concepts into reality in his continuing look at a stationery pack



Now that we have the design concept of the individual elements that make up our company or "corporate" image clear in our heads, we need to look at applying a structure to them.

It's one thing to have chosen all our elements correctly, but unless there is consistency in the way the main elements are laid down on each individual piece of stationery, the end result will come out looking like a dog's dinner.

An example of this would be when the company logo is placed on the right-hand side of the letterhead but on the left-hand side of the compliment slip.

Even worse than this would be to place the company name vertically down the page on the letterhead but then place it across the top of the compliment slip when you realise it won't fit down the side.

The way to avoid making these mistakes is to make sure that the placement of the main elements on each piece of stationery is consistent. If you place the company name in the centre of the page on one piece then it should be placed in a similar position on the other two pieces. The company name is visually prominent in the design that makes up the "company image".

One element that you can get way with placing in a different position is the text for the name and address, which may have to be placed in a different position to fit in with the different sizes of stationery.

So while still in the design stage put in some thought as to how the elements can be arranged on all the pieces so that they appear as one element and not a number of individuals.

You will need to look at the different pieces of stationery and the limitations they impose on your design. Once you have gone through this process you are within sight of finishing your stationery pack.

With this in mind we can now turn our attention to seeing how we can place the company image on the first of the three pieces of stationery we need to produce, the letterhead.

Typically the size of this will be A4, but there is the option of placing the elements for the letterhead on the top two thirds of the page, producing a short letter, leaving space for a compliment slip on the bottom third of the page which will be cut off after printing.

After having settled on a page size you can now look at your options for placing the elements that make up your company image within the boundaries of that page.

There are two areas on the letterhead that need to be worked around. One is reserved for the body copy of the letter, and the second is for the name and address of the letter's recipient, especially important if your company uses window envelopes.

Once you have marked out these areas you can start work on the compliment slip and see if there are any areas on it that may conflict with any ideas that are starting to form after the design of the letterhead.

An ideal size for a compliment slip is one third of an A4 page, in a horizontal, or landscape aspect. Choosing this size enables you to place three on the one A4 page, so will keep costs to a minimum.

There are two areas that need to be looked at that are common to the compliment slip. The first is an area of the page for notes to be scribbled. This can be any size, although the smaller it is the more cramped the compliment slip starts to look.

The second addition is a line containing the words "with compliments". These should be in a contrasting typeface so they do not merge with the rest of the text.

If your text for the address is in a modern sans serif font like Triumvirate, then you have the option of placing the "with compliments" in a traditional serif typeface like Times.

This principle needs to applied to the text which will be used on the business card for the name of the person the business card will represent.

The danger when reducing all the elements from your design to a size to fit on the business card is that when you place the recipient's name on there it will be lost amid the other text.

Instead of placing it in a contrasting typeface you can make it stand out from the rest of the elements merely by enlarging it and setting it in bold, making sure you have plenty of white space around it.

The size of your card is dictated by the spaced allocated for it in holders designed especially for business cards. A good size to go for is 90mm by 60mm, which will enable you to get four on a A5 page.

Once you have looked at the three pieces of stationery you can take your design and set about laying it out in your publishing program.

You're on you own now. Publishing at this stage is easy, it's the design process that's hard work, but next month we'll look at turning your software layouts into piles of stationery.



The essential ingredient in all three of pieces of stationery is that the company image remains similar...



...but when your design changes in each of the separate pieces of stationery, the whole image comes across as amateurish

shop window

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ACK is available exclusively from E.M.C., and for a special introductory period the program is available for:-

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I can see clearly now

With confusion over screen modes and monitors reaching fever pitch, Commodore have at last come to the rescue with the 1942, a monitor for AGA Amigas

Cased in creamy plastic, and physically identical except for a swivel stand to the medium resolution 1084S, Commodore's 1942 monitor is an attempt to sort out the confusion and incompatibility currently rife in the AGA market.

In itself, it is a welcome attempt to meet the demands of a growing user base with little or no idea which monitors will work, and as this one assuredly does work it will succeed, but it must still be judged as a monitor.

Clocking in at a respectable .28mm dot pitch, the 1942 is good for up to about 800 by 600 resolution screens without blurring or eye strain.

Dot pitch, for those who haven't encountered the term before, relates to the size of each dot used on the monitor screen, so the smaller the better, and .28mm is the standard for most PC SVGA monitors.

The screen, with its 14in CRT and 13in visible area, is hardly vast, and couldn't be accused of implementing flat square tube technology, but it is adequate.

Supplied with each monitor is a brief user guide to setting the thing up and attaching the swivel stand, a Commodore AGA monitor adaptor, and Wang warranty card. There is no software, though as users will soon discover, it is badly needed.

On booting the office A4000, the 1942's display was badly out of centre, with about two inches of useless gap on the left hand edge of the screen.

The impressive bank of knobs behind the unit's front panel, including horizontal and vertical shift and size options, helped a little, but the visible area was too far askew to be of much use.

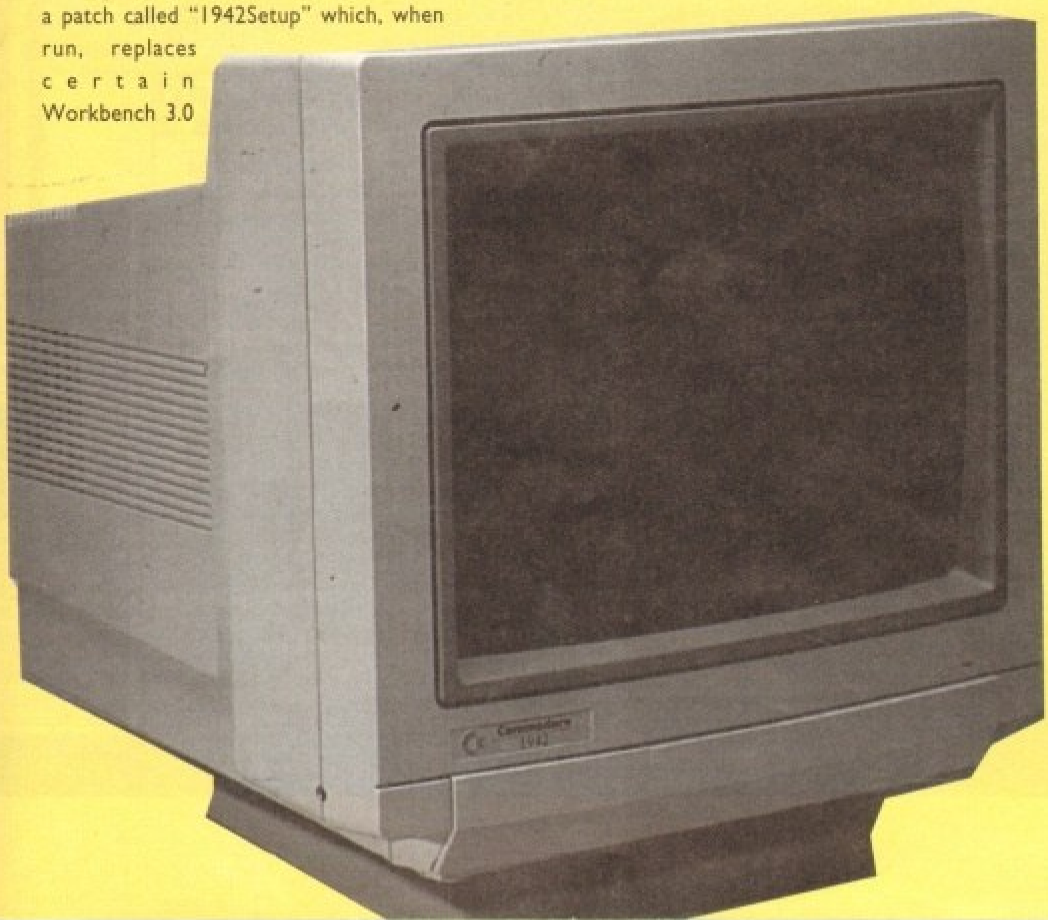
A quick trip to our favourite bulletin board furnished us with a patch called "1942Setup" which, when run, replaces certain Workbench 3.0 preferences programs and a list of monitor drivers with later versions designed to work properly with the 1942, and after a fairly tedious session of faffing about with overscan settings the problem was solved.

It is to be hoped that this disk will be distributed with future monitors, as not many users have access to bulletin boards.

Sound is the ace in the pack as far as this VDU is concerned, as it is one of the very few VGA standard monitors in existence which has a built-in stereo amp and speakers. Given the market at which it is aimed, this is a very sensible decision, and as the sound is perfectly good, even at maximum volume, users upgrading from the 1084S will find no cause for complaint.

Offered a chance to try it out, many PC game players and enthusiasts might plump for the 1942 rather than the monitor with speakers and cables flying around all over the place which is more the norm in the deaf world of the mute IBM.

With a little hassle and the proper setup software, the 1942 is a good answer to what has been a very boring problem since the AGA machines were released, and if nothing else will make life easier by providing some sort of choice.



Have we finally seen the end of screen confusion?

Fun Colour

256-colour enhancement module for all ECS Amigas
Supplier: Power Computing
Phone: 0234 843388
Price: £39

Fun Colour is an external digital colour modulator for the Amiga 500/600. In other words, if you're a graphic artist who's tired by the slight fringe to colours that HAM regularly produces and want near photographic quality images that are good enough for presentations, tape slides and are genlock compatible with video, then this package offers an ideal solution.

By using the hardware module supplied which fits into the Amiga's monitor port, Fun Colour is able to convert colour data through Workbench or CLI into a crisp 256 true colour image.

It also caters for several different image formats which include IFF, IFF-8, IFF-24, Ham8 and GIF so compatibility shouldn't be a problem.

The program itself is simple to use and offers various graphical enhancements such as dither, lacing and overscan to suit the exact specifications of the picture you want. After this, it's a case of loading in the image and Fun Colour will take care of the rest.

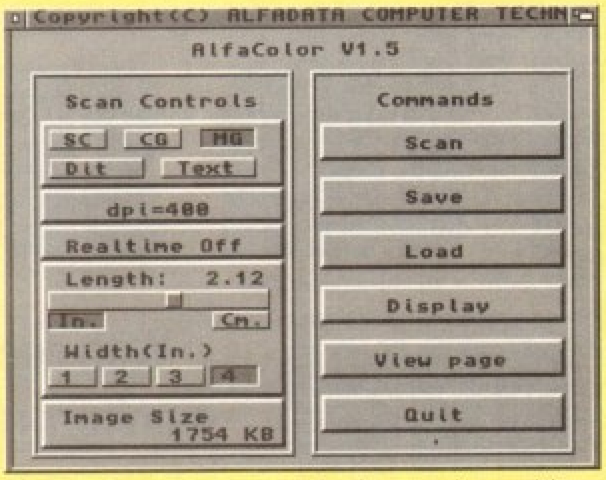
My only gripes with the package are the odd pixel glitches present on the final image which only disappear when you move the mouse. This can lead to irritation when you have to wait for the picture to load in all over again because you want

Shop Window

the best result. Also, the "quick" and "best" options which refer to the quality of the end picture seem for some unknown reason to take an equal amount of time to draw.

The last problem lies with the hardware module itself; there is no way of connecting it to the monitor cable securely without the use of sticky tape, so subsequently if you move the computer at all during operation, chances are that the lead will slip out slightly and you'll lose the picture which isn't too healthy for the Amiga.

These grumbles aside, Fun Colour offers excellent value for money and delivers an affordable step up to A1200-quality stills.



Alfa Colour software is available for the new colour model

AlfaScan Plus

256 greyscale hand scanner with Touch Up and Merge It software
Supplier: Golden Image
Phone: 081-365 1102
Price: £119.95

Alfascan is an affordable and easy to use black-and-white scanner system which is compatible with all Amigas with one megabyte of memory and above. The package offers a scanner which is able to optically read anything from a photograph to a newspaper column and Touch-Up, a graphics program used to refine and enhance the images read by the scanner.

The hand-held device has six areas of interest: the DPI settings switch (100, 200, 300 and for best results 400dpi); a contrast thumbwheel for controlling the difference between the lighter and darker areas of the image; and a text-to-photo switch with four settings which enables a clearer definition for either text (solid with no halftones) or photographic (tonal variation) based material. Once these options have been adjusted to your exact requirements, the scanner can be made ready for operation via the Touch-Up software. A green strip light comes on to tell you it's ready to go and all that needs to be done is to line up the reader head with the material and press the Start button.

The item to be read must be on a flat and even surface to ensure that the scanner can get the best reading possible.

Keeping this button pressed down, it's simply a case of moving the scanner horizontally or vertically (portrait or landscape) slowly along your chosen picture, up to and including the maximum size of A4. While you're doing this, the image will be printed up onto the screen.

Once the reading is done, you are free to adjust the picture with the various tools offered by the Touch-Up graphics package.

The front end of the program is similar to other art packages but in black and white. A bar of icons run down the left hand-side with the main graphics area taking up the rest of the screen.

At the top are the pull-down menus which include projects management, ie loading and saving in a variety of different file formats (IFF, TIFF, IMG and PCX); viewing options; editing, including mirror, resize, slant and flip facilities for the clipboard (more of that later) and a process menu for outline, masking and cleaning up the scanned image.

The program itself is split up into three sets of "workshops": the scanning, clip and painting tools.

The scanner tools are where the parameters for the scan-

OCR and OCR jr

Optical Character Recognition software for use with AlfaData and Migraph hand scanners
Supplier: Gasteiner
Phone: 081-365 1151
Price: £99, or can be bought with scanner for much less

By setting one of the controls on the scanner to text, characters can be scanned and analysed by the Migraph OCR software. The object is to transform digitised text into an Ascii file so that it may be used in a word-processor, thereby removing the need for copy-typing.

The program splits the digitised image into lines then character and word segments. These are analysed against mathematical definitions for characters and the text is finally output.

Migraph OCR has been pre-trained to recognise a number of fonts which include, among others, Courier, Elite, Helvetica, Pica, Elite and Times.

Images scanned from magazines and books usually contain graphics as well as text. To make things easier on the computer, boxes may be drawn around unwanted graphics, text and any glitches that may have crept into the digitised image. If only one or two areas contain text that you are interested in, these can be boxed and analysed. Occasionally, graphics may be inset into text at the start of a column. As well as rectangular boxes, Migraph OCR allows composite boxes to be drawn which is useful in such situations.

There are two modes of character recognition: interactive and automatic. In interactive mode, unrecognised characters from the digitised image are displayed together with the program's best guess.

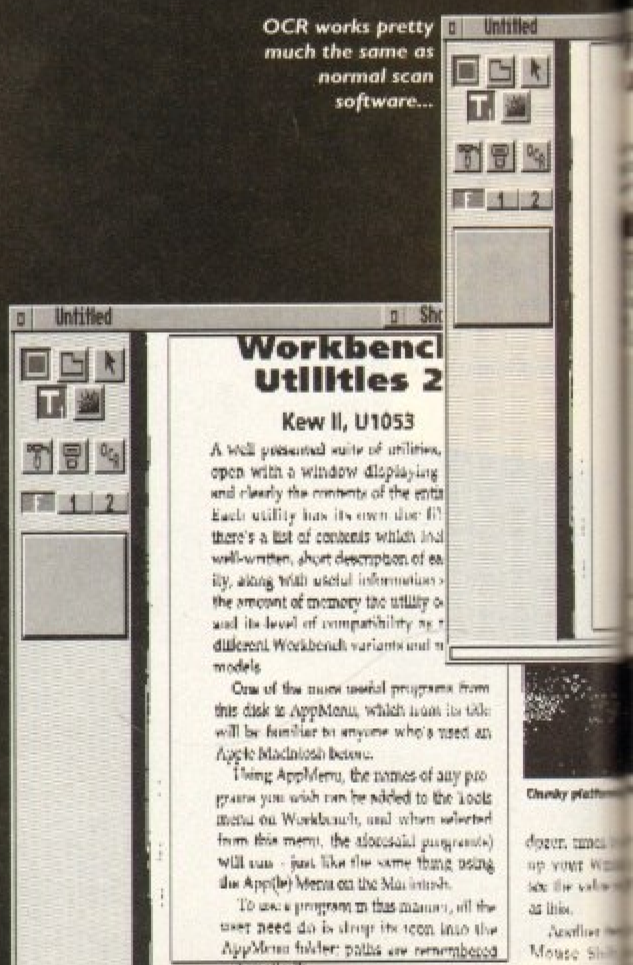
The user can then opt to accept the guess, if it is correct, to enter the right characters or ignore the offending section of the scan.

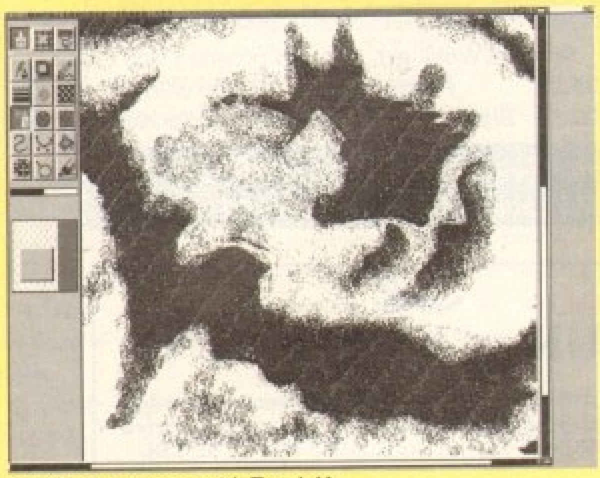
In automatic mode, the process is the same except that where a best guess cannot be made, an ampersand (&) is inserted. Once the text has been output to a file, it may be loaded into a wordprocessor and corrected there.

Like the Merge-It software, Migraph-OCR works best when the scanner is used in conjunction with a commercial scanning tray. In the absence of one of these, any improvised gadget that prevents wobble will do.

Migraph-OCR does the job it was designed for but is not as accurate as the average typist. However, if you are a one-fingered typist with a burning desire to translate the printed word into Ascii files, this package will come in handy. Be advised that a minimum of 2Mb RAM and a hard drive will soon stretch to 8Mb RAM for larger documents

OCR works pretty much the same as normal scan software...





Painting in patterns with Touch Up

ning device are set up. It is possible through the Settings menu to alter the amount of width and height that the scanner will record of the subject. If you want a small grab then there is no point of wasting memory by scanning a page of A4.

The clip tools cover the many different functions of the clipboard which is a buffer storage space for cut and paste images. Parts of a picture may be stored on the clipboard and adjusted with the various effects at your disposal.

Like other art packages, this is achieved by the user selecting the area, drawing a clip box around it and then selecting one of the effects items they want. If it's Mirror, then you're offered a menu of reflections to choose from – from the left, right, top or bottom of the image.

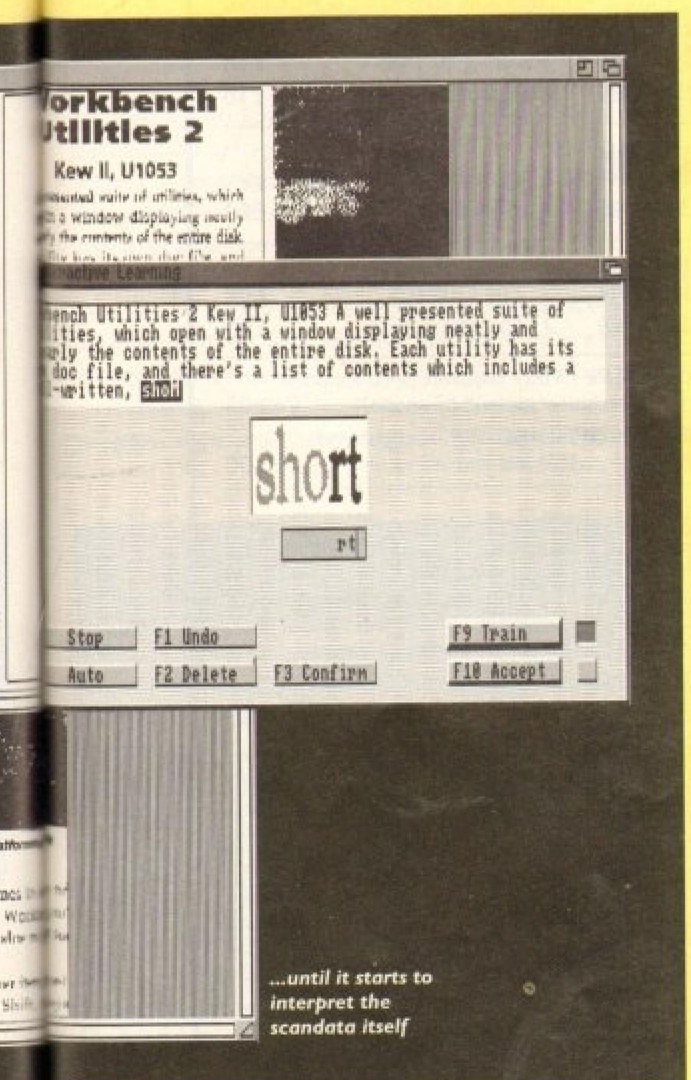
The small hammer icon gives you access to the Miscellaneous Tools menu which offers a variety of page options from clearing and turning the clip box into full page size to inverting the black and white image to its negative counterpart.

My only grumble is that you can't undo an effect once it's been applied. This means if you're not happy with the result, it's time to load or even scan the image again.

Next up are the painting tools which control the drawing devices used to touch up your picture. On offer are spray can, pencil, circle and rectangle construction tools, fill, line type, eraser, sketch, curves and lasso options among others.

The Curves function creates either a B-spine or Bezier curve which are constructed from, in the former case, several, and in the latter, four individually user plotted points. By pressing on each point and moving it the curve follows and is able to become a multi-curved brush that can be painted with.

The Lasso tool lets you create a freehand brush to be used on-screen. Simply draw around the part of the image, lift it off and use it.



...until it starts to interpret the scandata itself

Textures

To enhance these last two options is the Pattern palette which gives you access to 34 different textures in three different sizes. These can be used as "paint" for backdrops or surfaces of scanned pictures. All the tools you create can also be saved on to disk for later use.

The Zoom option offers four different views: full, 1:1, 2:1 and 4:1. This magnification is adequate but unfortunately, I was only able to paint on the image on 1:1 and none of the others. This defeats the purpose of having a Zoom facility in the first place...

For extra fine work, Fatbits gives a fixed magnification on a small section of your image that you want to work on. By clicking on a black pixel, it will become white and vice-versa.

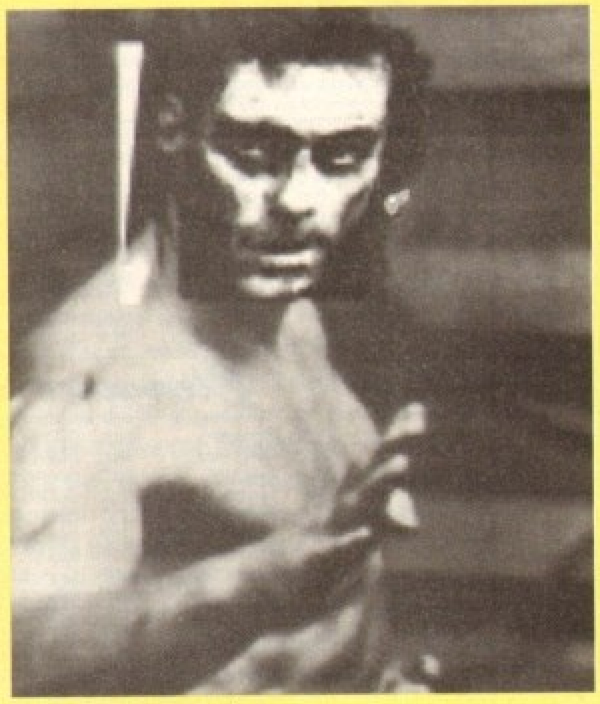
This can prove to be annoying because the pointer is not 100 per cent accurate all the time and it's difficult to slap in a change without having to go back over it, correcting the wrongly coloured pixels.

It would've been better to leave the palette so that you're able to swap between the two when you wanted.

Once the image has been doctored, manipulated and played with, it's time to move onto one of the packages most impressive features; the 256 greyscale conversion.

This tool produces a near-photographic quality image incorporating all the changes made. Simply choose the screen display wanted from lo-res, interlaced and so on, the format of the file it is to be saved onto, and the size of the area to be reproduced.

The greyscale rendering works extremely well and took my oh so slightly feeble attempts at being an artist and made them look professional.



Van Damne gets a touch-up

Touch Up is a reasonable program overall. A few more tools such as a stencil option and a 16 shade black-to-white palette wouldn't have gone amiss; it's a real pain trying to create a similar colour to grey with just black and white at your disposal.

Also, I found that the system would just lock up on its own sometimes either to release itself a few moments later or remain locked up until I reset the machine.

All these criticisms may not matter if you have a copy of Deluxe Paint or other file format-compatible art packages because the images can be downloaded to them for the finishing touches before being transferred back across for greyscaling.

The scanner itself is excellent; clear images and enough options to create solid pictures for use in the office or at home. My only criticism is that it's difficult to know exactly what the parameters of the scanning window are when actually using it; some kind of marker would have made life a little easier. It's a case of lining it up roughly and seeing what happens.

Alfascan is a quality product and offers value for money which even if you don't have an essential need for, is worth buying purely for the pleasure of using it.



Superb 256 colour scans

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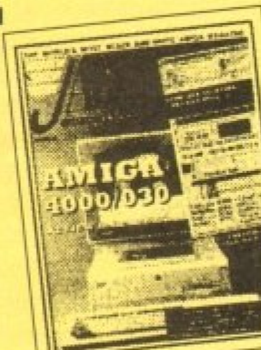
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HARD TIMES

To complement this month's hard drive round-up, Hard Times provides a few hints and tips on avoiding the hard sell when buying a hard drive

In the past, hard disks were strictly for the serious, but with the ever-increasing number of installable games, faster machines and punter-friendly power products, the tables have turned and the anoraks of old are no longer alone in the quest for faster, bigger and better storage.

For those who never wander much further than the games section, the apparent complexity of the subject – and the range of hardware – can seem rather daunting. However, the move from floppies doesn't have to be as traumatic as you might imagine.

One of the biggest misconceptions about a hard disk is that somehow it will transform your machine from an old friend into a total stranger set to scotch any attempt at useability, or alternatively create an all-singing, all-dancing automated answer to life, the universe and everything.

In fact, if approached from the right or wrong angle both arguments hold water. The angle in question is your level of understanding of how a hard disk operates. This could quite literally mean the difference between bliss and misery.

In effect, a hard disk is simply a very big, very fast, floppy. If you can keep this concept in mind, managing the beast is a whole lot easier. For example, a hard disk has to have all the basic elements the Amiga expects to find on a floppy.

Essentials

If the machine can't find essentials such as the C directory it won't perform even the most basic CLI commands as almost all the CLI essentials must be resident in the C directory of the system disk, just as they are when the floppy boots the machine – thereby assuming the role of a floppy system disk.

Whenever the machine is turned on with a hard disk installed and no floppy present, the hard disk immediately becomes the system disk and as a result the machine will attempt to boot from it and from then on look to it for all the files asked for either by you, or your software – unless instructed otherwise.

The point being that you must be able to manage your hard disk properly by making sure that what the Amiga requires is available and in the right place. For this reason alone a directory manager is essential.

Fortunately there's a lot of choice in this area with several programs in the public domain plus the odd commercial alternative. Notable PD programs including TDM and SID2 – both of which have been on past *AC* CoverDisks – while commercial offerings include Directory Opus and Directory Manager.

For the beginner a PD program should be more than enough as it simply makes the process of copying, moving and managing files much easier.

If however you feel confident to handle the process via the CLI or Shell, feel free. In addition to file management it's essential you become comfortable with the AmigaDOS assign command as it becomes invaluable to any hard disk user.

Before handing over any cash, here's a list of essential questions you should put to you supplier. First and foremost, ask whether the unit is IDE or SCSI. If it is an IDE, ask if the drive – minus the controller card – would fit into either an A600 or A1200.

This is worth knowing even if you're planning to use the drive externally, simply because if you decide to upgrade your machine later on you won't need to invest in a new drive.

When buying an A500/500 Plus external, ask if memory can be added to the drive, and if so can the machine still use this additional RAM when the hard disk is turned off?

If the unit operates without a power supply, inquire if there is an option to add one if necessary. This may be essential if you plan to use the drive with additional peripherals as the strain on the Amiga's internal power may be too much.

In the same vein, check if the drive offers a DMA Pass-through. If not, it will be impossible to use additional DMA devices such as scanners or RAM expansions unless they offer a DMA through option – thereby allowing the drive to be appended to them.

Daisy-chaining

If you opt for a SCSI device and wish to take advantage of its daisy-chaining potential ensure that the drive has a SCSI through-port. If not you won't be able to expand later on – unless you buy another controller card.

Remember to ask about the speed of the drive. Query the drives access time in milliseconds. The fastest drives run at around 8/11 milliseconds with 17 being the norm for IDEs – anything above 20 is pretty sluggish...

If you're planning to buy a second-hand unit, make sure the drive's original formatting and prep software comes as part of the deal. If disaster strikes and you're forced to re-format your drive, finding appropriate software can be very difficult – especially on older models.

Finally, when buying a drive make sure you have at least 2Mb of memory in total. As Commodore found out to their cost with the A600HD which shipped with only 1Mb, many games won't run simply because a certain amount of RAM is required to boot the hard disk and Workbench – thereby rendering 1Mb games unusable.

SCSI OR IDE?

Assuming you've decided to take the plunge what's next? Should you go for a SCSI or an IDE? Do I have a choice, and if so what's the difference?

Well although a slightly complex subject, here are the basics. If you own a machine that runs on Workbench 2 or below you have the choice between both IDE or SCSI with the essential difference being that SCSI devices are generally a little faster and more expandable while IDEs are often cheaper.

Intelligent

Unlike IDE, the SCSI standard is much more intelligent and as a result can be employed to control other devices besides just hard disks.

In addition, a SCSI controller is much more self-sufficient than an IDE and won't overburden the CPU of the machine when reading or saving data – often the cause of apparently slower read/write times when running an IDE. For the average user the difference in speed is barely noticeable, especially if you've just upgraded from a floppy system. The thing to bear in mind is that speed in relation to hard disks is totally different to what you're use too.

For example, in floppy terms speed is usually gauged in minutes while hard disks are compared in milliseconds.

In simple terms, this means that software loaded on a IDE drive will take longer to load in relation to the average SCSI with the effect of increasing when writing to the disk.

On the expansion side, an IDE will support a maximum of two drives from one controller while SCSI stretches up to seven. Although a real advantage to serious users, these benefits aren't really an issue for the average punter. After all, can you see yourself lashing out for expensive SCSI add-ons or extra drives?

Accelerators aren't of any particular use in Amiga animation, but a hard drive certainly is. Large animations, especially if created in HAM mode, will consume huge swathes of disk space and should always be given the freedom of a hard drive to gallop around in.

Memory is also crucial, but only up to a point. The sort of animations created by most animators not using ray tracers are demanding on chip memory (you'll need 1Mb chip RAM for sure) but usually don't require more than about 2Mb to run in, and a lot less during the creation process.

If the intention is to produce five-minute long demos stretching across three or four floppies, then 4Mb RAM would be better, but for most purposes 2Mb is ample.

Software spotlight

Put life into pallid pixels with some of the Amiga's best animation software for everyone from beginners to Walt Disney

Disney Animation Studio

Coming from the past masters of animation, you'd think this program would be the best around. That it doesn't quite make it to the top of the ladder, however, shouldn't put off the potential animator.

DAS is made up of three programs, one for creating pencil drawings, one for colouring the finished animation, and another for synchronising the anim with sound effects and other clips of animation. In effect, it works in a similar manner to the real animators, a fact that the manual is at pains to point out.

In terms of features, DAS can stand up there with the likes of DPaint, but it is most definitely a non-HAM package designed for cartoon drawings.

The onion skin feature, enabling the artist to see the last three cells through the present cell, is ideal for creating smooth animations, but if you want a spinning logo or a HAM animation, try another package.

As a paint package, DAS does well enough, if not brilliantly, but where it scores very highly is in its dedicated nature. Budding Disney's can learn a great deal about the animator's art from this package, helped by some wonderful Disney demonstration anims, so it is easily the best package for the educational environment.

Supplier: Entertainment International
Phone: 0268 541126
Price: £79.95

Deluxe Paint 4

Though a little slow as a HAM paint package, DPaint has been many things since the release of v3, not the least of which is probably the best animation program available on the Amiga. Version 4's improvements to the already powerful animation section have simply reinforced the package's position.

Animators can now use a "light table" similar to the Disney "onion skin" to enable the creation of smooth animations, and all animation controls, such as frame advance and add frame, have been gathered together on a VCR-style panel for easier control.

In addition, there is now a morphing feature which can transform one brush into another over a series of frames, and though painfully slow, this feature can be a great aid when animating.

As usual, the DPaint perspective controls and move requester are still available, the latter of which has given birth to countless rotating, tumbling logo animations. As an overall package for the animator, DPaint 4 is number one.

Supplier: Electronic Arts
Phone: 0753 549442
Price: £89.95

Spectracolor

Basically a HAM paint package, Spectracolor was the first of its kind to offer animation, and has a few extra features which help the program give DPaint a run for its money.

Morphing is one, a feature which Spectracolor boasted many months before DPaint 4 was released, but the brush wrapping is Spectracolor's most unique tool.

This enables the user to pick up a brush then "wrap" it around a sphere, cube, or one of the seven basic shapes supported, to produce quite remarkable effects for a program in this price bracket.

There are a few drawbacks with Spectracolor, of course, and the main one is that it is HAM only. If you want to produce an eight-colour anim you can, but it will just be an eight-colour HAM anim, which means slow refresh rates and wasted memory.

To add to this, the animation controls are a little difficult to come to terms with, so unless the unique features are desperately required, Spectracolor is best used as a static image generator.

Supplier: Micro-PACE
Phone: 0753 551888
Price: £77.54

Take 2

A recent product and one which is designed more as an animation finisher than something in which to create the entire anim. For this reason the paint facility is limited.

Instead, the animator creates cells and, more importantly, plans which key cells will be used more than once in another package, then ports them across to Take 2 for editing. Once the cells are available, Take 2 can go to work on them using its powerful dope sheet and video scripting utilities.

The former enables the correct timing of when a frame will be played and the setting up of complex routines to mix and match frames, use them more than once, and generally harangue them into a sequence. Video scripting enables the correlation of scenes and sequences as one large anim ready to be taped to video.

The most powerful feature of the program, however, has to be its ability to run four level line tests. This means that the animator can have up to four separate animations going on at once in the same screen, and can edit or cut any one of them at any time.

It is the sort of feature usually found only in professional packages costing hundreds, or even thousands, of pounds, and could lead to Take 2 making an appearance in commercial studios as a valuable and very cheap line tester.

Supplier: Rombo
Phone: 0506 414631
Price: £49.95

Animation Station

A package with certain similarities to Take 2, Animation Station manages to sit on its own as an animation editor and special effects generator.

Like Take 2, Animation Station is designed to be used once all animation cells are complete. At this stage, the user loads the sequence into Animation Station, and uses the power of the package to combine animations, tack others on at the end, swap frames around, and assign times for the exposure of individual frames.

Special effects, such as wipes, resizing, scrolling, and others can be added across a user-defined number of frames, making it possible for the user to create professional cuts and edits in a computer cartoon.

Animation Station supports all Amiga resolutions and screen modes, including interlace and overscan, so it is a great tool for use in conjunction with one of the more traditional paint and animate packages.

Supplier: Marcam
Phone: 0604 790466
Price: £99.95

Classifieds

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◆ Power hand scanner, unwanted gift, (new £95) £55. Tel: 0354 740669.

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◆ A500+2Mb manuals WB2.04 software, £150. Tel Seth: 0937 845294.

◆ Amiga contacts wanted everywhere. Keron, 107 Central Hill London, SE19 1BY.

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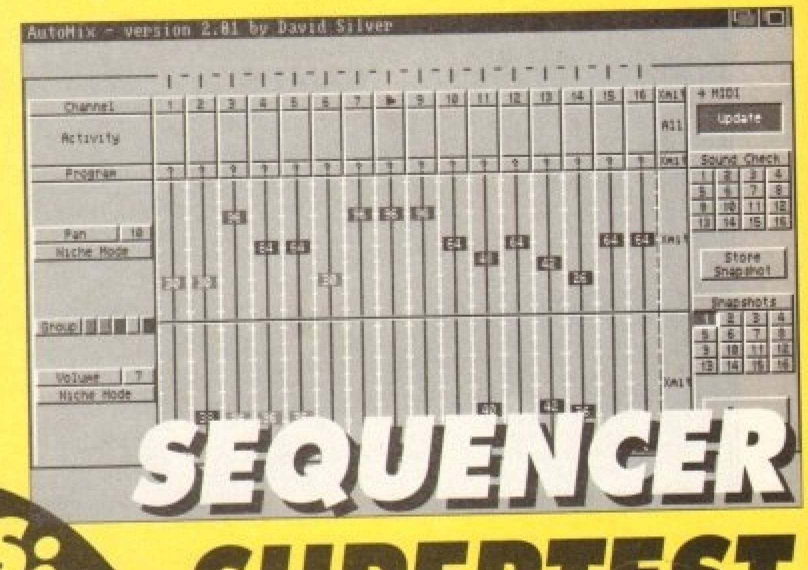


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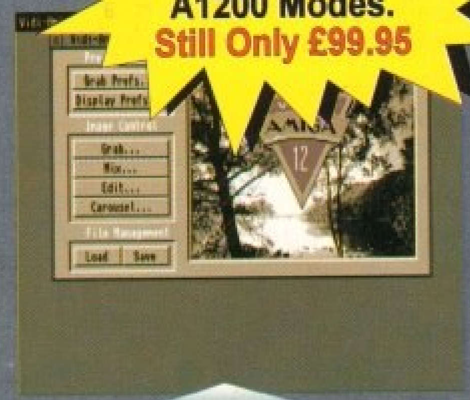
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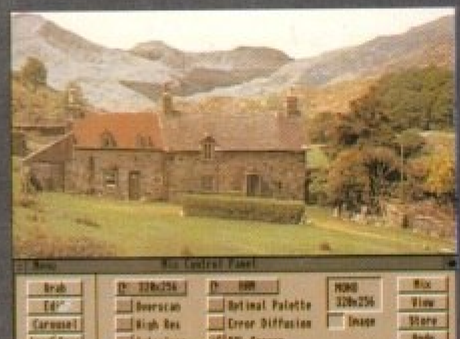
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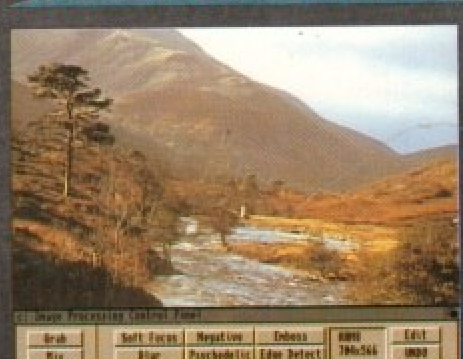
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